



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

## 4<sup>th</sup> Quarter 2023 Meeting minutes

Feb 2024

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 02/20/24 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                               |
| <b>TYPE OF MEETING</b>   | CASS Meeting                               |
| <b>FACILITATOR</b>       | Isaac Mackey                               |
| <b>ATTENDEES</b>         | Dave Jones, Dennis Busch, and Steve Slade. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <b>07/21/2023 Bell 206L2 N311MH</b><br><br>On July 20, 2023, about 1105 Alaska daylight time, the Bell 206L-4 helicopter, N311MH, was destroyed, when it was involved in an accident near Wainwright, Alaska. The Pilot and three passengers were fatally injured.<br><br>NTSB report submitted as attachment to this report in the Maritime FIR database. Still under investigation.                                                                                                                                                              | Dennis Busch |                    |          | Open   |
| <b>09/05/2023 Bell 206L4 N193AL</b><br><br>On September 4, 2023, about 1610 Alaska daylight time, a DeHavilland DHC-2 float equipped airplane, N97EL, and a Bell 206L-4 helicopter, N193AL, were involved in a midair collision near King Salmon, Alaska. The airplane sustained minor damage, the pilot and six passengers were not injured. The helicopter was substantially damaged, the solo pilot received minor injuries.<br><br>NTSB report submitted as attachment to this report in the Maritime FIR database. Still under investigation. | Dennis Busch |                    |          | Open   |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <p><b>10/11/2023 / 0700 PS5 Pubs Account</b></p> <p>Sent an e-mail to Dave Jones, Dennis Busch, and Issaac Mackey on outdated information in the Emergency Response Plan Manual that I noticed. Dennis replied with an updated manual with Revision 2 dated 03/09/23. The manual that I had access to was Revision 7 dated 1 July 2020. We must use <a href="https://rotor-apps.com/Alyeska/">https://rotor-apps.com/Alyeska/</a> due to Alyeska security/computer system protocol. If we use <a href="https://rotor-apps.com">https://rotor-apps.com</a> none of the items on the portal can be accessed as a "PAGES BLOCKED" screen is displayed. To ensure our <a href="https://rotor-apps.com/Alyeska/">https://rotor-apps.com/Alyeska/</a> documents are current we must use a personal device along with the WIFI system at the Pump Station to access the <a href="https://rotor-apps.com">https://rotor-apps.com</a> site to verify. If printing is needed from the <a href="https://rotor-apps.com">https://rotor-apps.com</a> site then we have to send the info to our Alyeska e-mail account so we can use the Alyeska printers as these items are also under security/computer system protocol and even use of outside thumb drive that is not Alyeska issued can be used on these systems. So, at times being the weekend, when weather is bad and affecting the WIFI usage, or a personal device is not available, so making sure the data on the Maritime Helicopters Maintenance Portal at times can be nonexistent and/or questionable as to the validity of the material used or referenced.</p> <p>DOM Updated ERP on Alyeska website. DOM Can't control what sites Alyeska allows or does not allow them to view on their internet. DOM in the middle of updates to the website Maintenance Portal and will be moving it off Google/Yahoo when I do.</p> <p>That should allow the Alyeska crew to be able to access the website on company computers.</p> <p>In progress as of 02/20/24 CASS Meeting.</p> | Steve Slade  |                    |          | Open   |

| Notable A/C items since last CASS meeting             |                                                                                                                                                                                                                                                                                                    |                           |                    |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                  | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                | Move to open action items | Responsible Person |
| <p><b>GOR 202324 Radar Antennas not Connected</b></p> | <p><b>11/3/2023 Bell 407 N319MH</b></p> <p>Pilot reported no rad alt. Upon inspection found the cables at the tail boom attach were left disconnected. The last tailboom torque check inspection was reviewed and the individuals involved were reprimanded. Aircraft was returned to service.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                    |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                          | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Move to open action items | Responsible Person |
| <b>GOR 202323<br/>Chin Bubble<br/>Cracked</b> | <p><b>11/30/23/0840 Bell 206L1 N315MH</b></p> <p>During installation of T&amp;B equipment for ACFT N315MH, mechanic installed the Inclination Phototach camera on the co-pilot windshield. The suction cup holding the camera onto the windshield lost adhesion, falling to the chin bubble window, causing it to crack.</p> <p>Mechanic stop drilled the crack and used the stitch method to provide a minor repair as per the AC 43.13-1 B. To prevent further incidents, mechanic will apply a liberal amount of lubrication to the suction cup for a better application of the suction to the suction cup.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
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| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
| <b>GOR 202325<br/>Mast Assembly<br/>Corrosion</b> | <p><b>12/4/2023/1430 Bell 206L4 N314MH</b></p> <p>A new mast assembly PN#206-040-014-107/SN# N2754 was received for install on N314MH. Upon opening the mast assembly it was instantly noticed that there was a significant amount of corrosion (rust) on a major surface area of the mast bearing liner PN# 206-040-577-101/SN# N/A and no oil was used to cover any components of the bearing assembly and little being used on the lower end of the mast pole.</p> <p>Upon further visual inspection it was noticed that there was more corrosion on the bottom/inside area of the bearing liner. B204L4 CR&amp;O specifies that no more than 20% of the outer surface area of the liner can have corrosion and no more than 20% of one square on the lower inside portion can be corroded. These limits were exceeded prompting further disassembly of the mast assembly. The mast nut was removed, and no evidence of any corrosion preventative compound was found on the threads of the pole. This is an installation requirement.</p> <p>Once the bearing plate PN# 206-040-578-103/SN N/A was removed, more corrosion was discovered by a simple visual inspection. Once again, no more than 20% of one square inch may have corrosion on the inside area of the bearing plate. After the plate was removed it was noticed that no oil was used on any of the o rings and the bearing was for the most part dry. The mast bearing PN#206-040-576-105/SN# MB1134 was removed, and it was soon noticed there was major pitting located on one of the inner race pieces. The limit is pitting that can be felt with a .020" feeling probe is out of limits. The probe literally fit into the largest of the pitting holes, with all other pitting being able to be measured with the specified probe.</p> <p>The outer race of the bearing was then pressed out of the bearing liner, and more corrosion was found on the outer portion of bearing outer race as well as the inside diameter of the bearing liner. Exceeding the limitations again of no more than 20% of one square inch. No oil was present inside the liner or on the outer race of the bearing. The bearing components were deemed un airworthy for installation. The mast pole was inspected, and slight scratching was discovered on the area where the bearing is pressed on the pole. This damage is minimal and can be polished out with stainless steel wool as it did not exceed the limits.</p> | Closed                    |                    |
|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |

| Notable A/C items since last CASS meeting      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                    |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                           | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Move to open action items | Responsible Person |
| <b>FIR 202321<br/>Unforeseen Weather Delay</b> | <b>12/22/2023 Bell 206/ N305MH and Piper Cherokee 901BL</b><br><br>Flight from PAHO (homer) to PGM (Port Graham) with N305MH (2xPinnacle-ACS Pax) and N901BL with on HEA Client. The weather was flyable from departure through arrival. 45 minutes after landing a blizzard hit and weather (visibility was greatly reduced) 305 MH attempted a takeoff with airplane pilot and all three customers. As engine start up and taxi took a few minutes, Weather degraded below 1/2 mile and helicopter returned from runway to ramp. Both aircraft and PAX were forced to spend the night in Port Graham. | Closed                    |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                          |
|----------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list |
| CAN 23-01 ASB 412-23-190                                 |
| CAN 23-02 AD 2023-03-01                                  |
| CAN 23-04 ASB 407-23-130                                 |
| CAN 23-05 AD 2023-06-05                                  |
| CAN 23-06 AD 2023-11-07                                  |
| CAN 23-07 ASB 407-23-132                                 |
| CAN 23-08 AD 2023-17-51                                  |
| CAN 23-09 ASB 412-23-194                                 |
| CAN 23-10 AD 2023-17-07                                  |
| CAN 23-11 Piper SL 1327B                                 |
|                                                          |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2023                           |
|------------------------------------------|
| 1. N901BL – 02/08/23 – Homer – Mag issue |

| AOG's for 2023                                                 |  |
|----------------------------------------------------------------|--|
| 2. N314MH – 02/24/23 – PS5 – Facet filter assy                 |  |
| 3. N314MH – 02/25/23 – PS5 – Turbine overtemp                  |  |
| 4. N326MH – 03/29/23 – VDZ – Anti ice servo                    |  |
| 5. N316MH – 04/22/23 – PS5 – Oil cooler bearing                |  |
| 6. N314MH – 05/14/23 – PS5 – N1 tach                           |  |
| 7. N193AL – 05/17/23 – Homer – fuel probe                      |  |
| 8. N407RH – 05/19/23 – Fairbanks -Turbine overtemp             |  |
| 9. N312MH – 06/28/23 – Coldfoot – drive link bushing           |  |
| 10. N319MH – 07/02/23 – Barrow – Overtorque                    |  |
| 11. N312MH – 07/08/23 – Bornite – Burner drain valve           |  |
| 12. N407PA – 07/12/23 – Anchorage – CEFA Filter                |  |
| 13. N407RH – 07/20/23 – Sana Lodge – Transmission oil pressure |  |
| 14. N314MH – 08/03/23 – PS5 – Hyd. Filter housing              |  |
| 15. N304MH – 08/09/23 – Nome – Float inflation                 |  |
| 16. N407PA – 08/11/23 – Homer - Overtorque                     |  |
| 17. N305MH – 08/19/23 – Akutan – Turbine overtemp              |  |
| 18. N407RH – 08/25/23 – Fairbanks – FADEC Horn                 |  |
| 19. N309MH – 08/31/23 – Homer – FADEC Np2                      |  |
| 20. N319MH – 09/12/23 – Deadhorse – CEFA Filter housing        |  |
| 21. N314MH – 09/25/23 – PS5 – FWU replacement                  |  |
| 22. N325MH – 10/16/23 – Fairbanks – Swashplate damaged         |  |
| 23. N901BL – 10/17/23 – Homer – Broken seat                    |  |
| 24. N304MH – 10/20/23 – Akutan – Starting issues               |  |
| 25. N325MH – 11/09/23 – PS4 – CEFA filter                      |  |

| AOG's for 2022 by Location |   |
|----------------------------|---|
| Deadhorse                  | 1 |
| Barrow                     | 1 |
| Nome                       | 1 |
| PS4                        | 1 |
| Coldfoot                   | 2 |
| PS5                        | 6 |
| Fairbanks                  | 3 |
| GRB                        |   |
| Tonisna                    | 1 |
| Anchorage                  | 1 |
| VDZ                        | 1 |
| Kenia                      |   |
| Homer                      | 5 |
| Kodiak                     |   |
| Akutan                     | 2 |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

|                      |
|----------------------|
| Maintenance training |
|----------------------|

| Safety Management System                         | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Effectiveness |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Emergency Response Plan-Old<br><br>New           | ERP Checklist, check with FAA on 2/20/24 on current PMI/POI<br><br>Add Zoleo procedures?<br><br>.<br><br><b>Need new Fire Drills at both base stations.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |               |
| Station Checklists-Audit Program- OLD<br><br>New | MGMT Audits for 2023 finished.<br>Now need to schedule 2023-2024 base mgmt. audits (see below) Fairbanks started.<br>Taking out management audits of remote sites. DoD notes that when they aren't done (by their direction in a previous audit) that there may be "risk" involved. I don't see it. We have professional pilots and mechanics looking at the remote sites once per month and the flight records are being scrutinized in Fairbanks and Homer. They have been taken out of the iAuditor program.<br><br>External audits for March Santos/BLM. DoD 6th month review complete |               |
| Management of Change                             | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |

| Safety Management System                                                                              | Evidence                                                                                                                                                                                                                                                                                                                                                                                       | Effectiveness                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Overall Safety Effectiveness-OLD</p> <p>Use of Checklists/PS5 incident?</p> <p>New</p> <p>KPIs</p> | <p>Use of Checklists/PS5 incident?</p> <p>Any changes yet in procedures due to July accident in 311MH? Also Brownout at PS5 to be discussed with these changes</p> <p>New Flight Plan</p> <p>GORs and FIRs were about an average year by number. 25 GORs and 21 FIRs. 2 lost aircraft plus the lives lost.</p> <p>ISNETWORLD: Hilcorp items? E.g., insurance, are we keeping this current?</p> | <p>From 1<sup>st</sup> quarter</p> <p>Notes? Low visibility factors if that was an issue? Hostile Environment Training.</p> <p>Seems like it's mostly in use now. Homer?</p> |
| <p>Employee Assistance Plan and Family Assistance Plan</p>                                            | <p>Can we get review comments of successes and failures for future use of EAP? Red Cross and Red Cross contract ladies did an awesome job. Should we write this into future contingencies?</p> <p>Several companies/Exxon have suggested we retain services of a Emergency Response company like KENYON INC. to do this, but it seems as the plan that CoO and DoO chose worked well.?</p>     | <p>Notes/Comments? Leaving this item open until incorporated into the Maritime ERP</p>                                                                                       |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------|
| <p>NA this month. No Otter and HFDM not in use in rotary fleet yet</p> <p>Latitude tracking, Uploads. N325MH Download issue</p> |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 04/18/24 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

3<sup>rd</sup> Quarter

Nov 2023

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 11/30/23 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                   |
|--------------------------|-------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                      |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                      |
| <b>FACILITATOR</b>       | Isaac Mackey                                                      |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Dennis Busch Matt Stevens, and Steve Slade. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
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| OLD OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                    |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                  | Move to open action items | Responsible Person |
| <b>GOR 202315<br/>Freewheel Unit<br/>Oil leak</b> | <b>06/10/2023 Bell 206L4 N314MH</b><br><br>Free Wheel Unit forward housing leaking oil statically on engine deck shelf. Removed FWU and found packing onforward housing ring to be severely damaged. Replaced damaged packing along with associated packings for install. Ran aircraft and completed leak and operational checks with no further static leaks. The aircraft had a gearbox replacement in Fairbanks on 04/19/23. The FWU was pulled off the old gearbox and installed on new gearbox. | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                    |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Move to open action items | Responsible Person |
| <b>GOR Overtorque</b>                     | <p><b>07/03/2023 Bell 407 N319MH</b></p> <p>The pilot was asked to sling a bundle of scaffolding from the back deck of a shelter to the work area in front of the building. After agreeing and checking the rigging, the pilot brought the hook to be connected by the ground crew (suspended below the aircraft for hookup by ground crew). When the pilot began lifting, and was airborne, he realized he was exceeding limitations for conditions. There were crew beneath the aircraft on deck and a power line and a gas line to the left and forward as the aircraft was oriented. The pilot elected to fly the load away from the people and the lines before setting the load back down. The torque gauge then showed an exceedance. Aircraft was shut down and a safety-stand-down brief was conducted. Initially, the aircraft was deemed airworthy to return crew to Barrow, but after conversation with maintenance personnel, the aircraft was deemed not airworthy.</p> <p>A second aircraft was flown to the location from Fairbanks with maintenance personnel onboard. Maintenance connected the laptop to the FADEC and downloaded the data. No parameters were exceeded, and the aircraft was returned to service.</p> | Closed                    |                    |
| <b>FIR 202313 Brownout</b>                | <p><b>07/03/2023 Bell 407 N407PA</b></p> <p>While taking off from PS5 Ramp, a brown-out condition was encountered. Takeoff was aborted with a quick stop which produced even more brownout conditions. Pilot brought his vision into the bubble window to look down and make a landing. While changing his visual reference, the helicopter started a drift to the right and so landed with right movement when the skids touched down. The mechanic who was on board got out and inspected the aircraft for damage/skid/landing gear damage. No damage was found. Aircraft departed then, using the runway. About five minutes into the flight, the inlet filter light was illuminated, and the pilot initiated the filter bypass and monitored gauges during the flight back to Fairbanks. No abnormalities were noted during the flight. The aircraft was inspected further for damage when they went back to Metro Field, with no damage noted.</p>                                                                                                                                                                                                                                                                                   | Closed                    |                    |

| Notable A/C items since last CASS meeting            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                 | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items | Responsible Person |
| <b>FIR 202316<br/>Generator will not stay online</b> | <p><b>07/07/2023 Bell 206L4 N193AL</b></p> <p>The pilot called Homer Maintenance Lead to report that the generator would cut off if he attempted to increase above idle RPM. Numerous attempts were unsuccessful. The generator would reset but not stay online above idle.</p> <p>Homer maintenance returned to the hanger to get parts and fly up with 304MH to fix the helicopter and retrieve the client off the oil platform. The starter generator was replaced without the desired outcome. During the run-up the mechanic noticed that the voltage was way too high. An attempt at adjusting the voltage regulator was unsuccessful and the problem got worse, not better. Both pilots and mechanic returned to Homer via 304MH. The mechanic and pilot drove up the next day and replaced the voltage regulator (generator control unit). Ops check normal. Aircraft returned to service.</p> | Closed                    |                    |
| <b>FIR 202314<br/>Oil Leak</b>                       | <p><b>07/10/2023 Bell 206 L4 N311MH</b></p> <p>After Preflight, the aircraft departed from MTF to Palmer Creek, approx. 60NM East. When the aircraft landed at the site, the pilot noted oil dripping down the side of the aircraft near the oil reservoir area. Upon inspection, it was noted that the oil cap was not properly seated. The pilot seated the cap properly and cleaned the spilled oil on the aircraft. Oil was noted to still be within satisfactory and safe level. Upon mission completion, maintenance was notified.</p>                                                                                                                                                                                                                                                                                                                                                           | Closed                    |                    |
| <b>GOR 202312<br/>Incorrect Fuel Nozzle S/N</b>      | <p><b>07/11/2023 B407 N308MH GRB</b></p> <p>Fuel nozzle coming due for 2000hr overhaul. While preparing to replace with spare, found spare fuel nozzle S/N should have been the one in engine. The currently installed fuel nozzle was the spare from parts box. Determined that the nozzles were switched at 150hr cleaning/insp.</p> <p>Contacted Chief Inspector and Records, updated aircraft records to reflect the change of nozzle and updated insp. overhaul times of nozzles. The original nozzle was sent out for overhaul.</p>                                                                                                                                                                                                                                                                                                                                                              | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |                    |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Move to open action items | Responsible Person |
| <b>FIR 202315<br/>Oil Leak</b>            | <p><b>07/12/2023 Bell 407 N407PA</b></p> <p>Pilot reported oil all over the tailboom and the CEFA lube bypass indicator was extended.</p> <p>Maintenance Lead drove from Homer to Anchorage. The cause of the oil leak was caused by over servicing the engine oil and improper placement of the filler cap.</p> <p>Because of the high visibility of the oil and the bypass indicator the CEFA lube filter was replaced. Serviced engine oil properly. A ground run leak check was performed. Aircraft returned to service.</p>                                                                                                               | Closed                    |                    |
| <b>FIR 202317<br/>Fatal Crash</b>         | <p><b>07/21/2023 Bell 206L2 N311MH</b></p> <p>On July 20, 2023, about 1105 Alaska daylight time, the Bell 206L-4 helicopter, N311MH, was destroyed, when it was involved in an accident near Wainwright, Alaska. The Pilot and three passengers were fatally injured.</p> <p>NTSB report submitted as attachment to this report in the Maritime FIR database. Still under investigation.</p>                                                                                                                                                                                                                                                   | Open                      |                    |
| <b>GOR 202311<br/>407 Blade Unfolding</b> | <p><b>07/31/2023 Bell 407 N407PA Homer Hangar</b></p> <p>The mechanic was unfolding the blades of the Bell 407 and tried removing the front blade cradle without first installing the blade bolts. Another mechanic stopped and gave blade unfold training on the process. The Main Rotor head and blade bold housing was then inspected.</p> <p>Performed inspection of the main rotor hub assembly IAW BHT-407 MM and CR&amp;O. No damage was found on M/R Hub assembly, blade, or yoke. Additional training on blade folding was given and a toolbox talk given about the process, and about asking questions when a task is not clear.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                               | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
| <b>GOR 202313<br/>Hard Starting/Wire Short</b>     | <p><b>08/16/2023 Piper PA-32 N901BL</b></p> <p>The pilot complained of hard starting. While checking the timing of the Electronic Ignition Module and Magneto, it was noticed that the alternator was blowing its circuit breaker.</p> <p>The alternator was replaced, which did not solve the problem. Then. While in the process of replacing the voltage regulator, a worn spot was found on the alternator field wire.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Closed                    |                    |
| <b>GOR 202316<br/>Hard Starting III/Wire Short</b> | <p><b>08/16/2023 Piper PA-32 N901BL</b></p> <p>The pilot complained of hard starting. While checking the timing of the electronic Ignition Module and Magneto it was noticed that the Alternator was blowing its circuit breaker.</p> <p>We replaced the alternator which did not solve our problem. Next, while in the process of replacing the voltage regulator we found a small point of wear on the alternator field wire. After replacing and securing the wire, then finalizing the install of the Plane Power voltage regulator the A/C ops checked normal. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Closed                    |                    |
| <b>FIR 202318<br/>Hot Start</b>                    | <p><b>08/18/2023 Bell 206L3 N305MH</b></p> <p>We woke up at 7:00 in the morning and headed to the hanger. Started preflight 0730. Pilot started with a fuel sample and left the fuel valve in the open position. After all preflight was done, we pushed the aircraft out front of the hanger and we did engine rinse. Before that, the pilot recycle the throttle twice with fuel valve on which he did not notice while the aircraft was plugged into external power. After engine rinse he got into the aircraft and did all control checks, he also did throttle recycle twice still with the fuel valve in the open position. The pilot attempted to start the engine. When he pushed the starter there was a sudden and accelerated TOT climb on the gauge. I closed the throttle to detent, but throttle was already detent position. I looked at TOT gauge again still rising very quickly. It happened so quickly and not realizing what was causing the hot start he decided that reaching for the fuel valve switch, rather than the ignitor circuit breaker, to close while he kept motoring the starter until the TOT fell below 150C was the next best step to stop the occurrence.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                    |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                         | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Move to open action items | Responsible Person |
| <b>FIR 202319<br/>Bad Torque Indications</b> | <p><b>08/11/2023 Bell 407 N407PA</b></p> <p>On the day of the flight, the Pilot was requested to sling some wood boards weighing approx. 1300-1400 lbs. When the lift occurred, the Torque indicator spiked to 113.6% Pilot immediately put the load back on the ground and proceeded to the destination LZ. Upon landing, management was notified and the crew on the ground started to investigate the over-torque condition. The pilot notified the mechanic that during the over-torque, there was no audible warning. The torque had gone high and "flagged" the exceedance. The mechanic connected the computer to the aircraft to look at the event, but there was no over-torque or other exceedance event recorded. After relaying this info back to Homer, it was decided that either the torque transducer or the gauge had spiked. It was decided to replace both of those components in the field.</p> <p>Replaced Pressure transducer and torque indicator. Aircraft returned to service.</p> | Closed                    |                    |
| <b>GOR 202314<br/>Hard Starting II</b>       | <p><b>08/23/2023 Piper PA-32 N901BL</b></p> <p>The pilot complained that the airplane was not starting properly.</p> <p>During ignition timing inspection the repairman accidentally shorted the new electronic ignition system that was recently installed. Ignition timing was verified to be exactly as it should be. During the operational check by the lead mechanic the plane was starting but not on the electronic ignition system. Inspection found that when the short happened the 10amp fuse was blown. Replaced fuse and AC started normal but the Alternator was not working properly. Replaced alternator, voltage regulator, wiring, and starter solenoid. Subsequent run ups were unsuccessful. The lead mechanic took over and found that both the alternator and voltage regulator were not installed properly. Operational checks were normal. AC flown to Penn AeroTech and verified. AC returned to service Friday</p>                                                               | Closed                    |                    |

| Notable A/C items since last CASS meeting                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                    |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                   | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Move to open action items | Responsible Person |
| <b>GOR 202319<br/>Brake Linings on PA-32, mis-installed</b>            | <p><b>08/25/2023 Piper PA-32 N901BL</b></p> <p>During routine inspection the brake pads needed replacement. It was found that the inboard brake linings were installed backwards onto the lining bracket.</p> <p>R&amp;R brake linings and installed properly. Conducted training on the proper way to rivet new brake pads into the PA-32-300, wheel assemblies.</p>                                                                                                                                                                                     | Closed                    |                    |
| <b>GOR 202317<br/>Airshield/spanner nut backed off aft spine short</b> | <p><b>8/31/2023/1720 B407 N325MH</b></p> <p>The mechanic began the A0100 inspection, short shaft and Tail rotor bearing lube, etc... and noticed that the airflow shield on the aft spline of aft short shaft was free spinning, checked spanner nut and noticed it was slightly loose, enough to finger turn. The lock tab was still in place and prevented the nut from backing off further (safety tab). No obvious damage noticed at this time. The washer was replaced, nut torqued, and the aircraft was returned to service.</p>                   | Closed                    |                    |
| <b>FIR 202320<br/>Mid Air Collision</b>                                | <p><b>09/05/2023 Bell 206L4 N193AL</b></p> <p>On September 4, 2023, about 1610 Alaska daylight time, a DeHavilland DHC-2 float equipped airplane, N97EL, and a Bell 206L-4 helicopter, N193AL, were involved in a midair collision near King Salmon, Alaska. The airplane sustained minor damage, the pilot and six passengers were not injured. The helicopter was substantially damaged, the solo pilot received minor injuries.</p> <p>NTSB report submitted as attachment to this report in the Maritime FIR database. Still under investigation.</p> | Open                      |                    |
| <b>GOR 202318<br/>No Logbook entry for floats</b>                      | <p><b>09/05/2023 B407 N309MH</b></p> <p>Floats were installed on aircraft with no writeup in logbook. Homer maintenance lead instructed mechanic to do the correct paperwork. Conducted training with all mechanics about proper logbook entries. This topic was covered in depth with the DOM as well.</p>                                                                                                                                                                                                                                               | Closed                    |                    |

| Notable A/C items since last CASS meeting                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                    |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                        | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Move to open action items | Responsible Person |
| <b>GOR 202322<br/>Swashplate damaged during maintenance</b> | <b>10/16/23 B407 N325MH</b><br><br>While coming out of annual inspection, during run-ups it was noted that collective position (rigging) would not allow for the engine to perform an alternate start. So the collective position needed to be re-rigged. During this procedure, mechanic had not used the written diagram in the Bell publications properly and had disconnected the lower hardware and rotated the collective transfer link to the swashplate UP instead of removing the upper link hardware and rotating the link parallel to the ground, on the top of the collective bellcrank (away from the swashplate). The other task being performed at this time was work on the freewheeling unit, so the aircraft blades needed to be turned for phasing. When the blades were turned, the momentum stopped when the collective link to the swashplate jammed into the rotating swashplate (between the rotating and no-rotating rings). Damage to both swashplate surfaces was found to be beyond limits. | Closed                    |                    |
|                                                             | The maintenance floor supervisor initiated this report. The maintenance supervisor taught toolbox talk regarding this procedure. A Company investigation was initiated. Mechanic on the collective rigging class also was required to teach a toolbox talk on proper use of pubs and diagrams in this procedure. Investigation and interviews showed that while the floor supervisor was partially responsible for not checking the mechanic's work in progress, he could not have known that the Bell publication had not been followed. Swashplates were replaced and aircraft returned to post-annual check-flights and POCs.                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                          |
|----------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list |
| CAN 23-01 ASB 412-23-190                                 |
| CAN 23-02 AD 2023-03-01                                  |
| CAN 23-04 ASB 407-23-130                                 |
| CAN 23-05 AD 2023-06-05                                  |
| CAN 23-06 AD 2023-11-07                                  |
| CAN 23-07 ASB 407-23-132                                 |
| CAN 23-08 AD 2023-17-51                                  |

|                                                          |
|----------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list |
| CAN 23-09 ASB 412-23-194                                 |
| CAN 23-10 AD 2023-17-07                                  |
| CAN 23-11 Piper SL 1327B                                 |
|                                                          |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                     |                           |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Item                                                | Notes                                                                                                                                                                                                                                                               | Move to open action items |
| <b>GOR 202320<br/>Wrong Fuel</b>                    | <p><b>09/07/2023 2019 Chevrolet Pickup</b></p> <p>While attempting to fuel the 2018 Diesel, regular gasoline was pumped into tank</p> <p>Confirmed fuel contamination, drained bad fuel from tank, cleaned fuel system and refueled pickup. Returned to service</p> | Closed                    |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| GOR 202321<br>Online Pubs issues                    | <b>10/11/2023/0700 PS5 Pubs Account</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |
|                                                     | <p>Sent an e-mail to Dave Jones, Dennis Busch, and Issaac Mackey on outdated information in the Emergency Response Plan Manual that I noticed. Dennis replied with an updated manual with Revision 2 dated 03/09/23. The manual that I had access to was Revision 7 dated 1 July 2020. We must use <a href="https://rotor-apps.com/Alyeska/">https://rotor-apps.com/Alyeska/</a> due to Alyeska security/computer system protocol. If we use <a href="https://rotor-apps.com">https://rotor-apps.com</a> none of the items on the portal can be accessed as a "PAGES BLOCKED" screen is displayed. To ensure our <a href="https://rotor-apps.com/Alyeska/">https://rotor-apps.com/Alyeska/</a> documents are current we must use a personal device along with the WIFI system at the Pump Station to access the <a href="https://rotor-apps.com">https://rotor-apps.com</a> site to verify. If printing is needed from the <a href="https://rotor-apps.com">https://rotor-apps.com</a> site then we have to send the info to our Alyeska e-mail account so we can use the Alyeska printers as these items are also under security/computer system protocol and even use of outside thumb drive that is not Alyeska issued can be used on these systems. So, at times being the weekend, when weather is bad and affecting the WIFI usage, or a personal device is not available, so making sure the data on the Maritime Helicopters Maintenance Portal at times can be nonexistent and/or questionable as to the validity of the material used or referenced.</p> | Open<br><br>Steve Slade |
|                                                     | <p>DOM Updated ERP on Alyeska website. DOM Can't control what sites Alyeska allows or does not allow them to view on their internet. DOM in the middle of updates to the website Maintenance Portal and will be moving it off Google/Yahoo when I do.</p> <p>That should allow the Alyeska crew to be able to access the website on company computers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |

| AOG's for 2023                                                 |
|----------------------------------------------------------------|
| 1. N901BL – 02/08/23 – Homer – Mag issue                       |
| 2. N314MH – 02/24/23 – PS5 – Facet filter assy                 |
| 3. N314MH – 02/25/23 – PS5 – Turbine overtemp                  |
| 4. N326MH – 03/29/23 – VDZ – Anti ice servo                    |
| 5. N316MH – 04/22/23 – PS5 – Oil cooler bearing                |
| 6. N314MH – 05/14/23 – PS5 – N1 tach                           |
| 7. N193AL – 05/17/23 – Homer – fuel probe                      |
| 8. N407RH – 05/19/23 – Fairbanks -Turbine overtemp             |
| 9. N312MH – 06/28/23 – Coldfoot – drive link bushing           |
| 10. N319MH – 07/02/23 – Barrow – Overtorque                    |
| 11. N312MH – 07/08/23 – Bornite – Burner drain valve           |
| 12. N407PA – 07/12/23 – Anchorage – CEFA Filter                |
| 13. N407RH – 07/20/23 – Sana Lodge – Transmission oil pressure |
| 14. N314MH – 08/03/23 – PS5 – Hyd. Filter housing              |
| 15. N304MH – 08/09/23 – Nome – Float inflation                 |
| 16. N407PA – 08/11/23 – Homer - Overtorque                     |
| 17. N305MH – 08/19/23 – Akutan – Turbine overtemp              |
| 18. N407RH – 08/25/23 – Fairbanks – FADEC Horn                 |

| AOG's for 2023                                          |  |
|---------------------------------------------------------|--|
| 19. N309MH – 08/31/23 – Homer – FADEC Np2               |  |
| 20. N319MH – 09/12/23 – Deadhorse – CEFA Filter housing |  |
| 21. N314MH – 09/25/23 – PS5 – FWU replacement           |  |
| 22. N325MH – 10/16/23 – Fairbanks – Swashplate damaged  |  |
| 23. N901BL – 10/17/23 – Homer – Broken seat             |  |
| 24. N304MH – 10/20/23 – Akutan – Starting issues        |  |
| 25. N325MH – 11/09/23 – PS4 – CEFA filter               |  |

| AOG's for 2022 by Location |   |
|----------------------------|---|
| Deadhorse                  | 1 |
| Barrow                     | 1 |
| Nome                       | 1 |
| PS4                        | 1 |
| Coldfoot                   | 2 |
| PS5                        | 6 |
| Fairbanks                  | 3 |
| GRB                        |   |
| Tonisna                    | 1 |
| Anchorage                  | 1 |
| VDZ                        | 1 |
| Kenia                      |   |
| Homer                      | 5 |
| Kodiak                     |   |
| Akutan                     | 2 |

| NEW OPEN ACTION ITEMS |  | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--|--------------|--------------------|----------|--------|
|                       |  |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Maintenance training         |
|------------------------------|
| Bell 407 Overhaul school Feb |

| Safety Management System    | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Effectiveness                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Emergency Response Plan-Old | <p>ERP 28 current-Page Three for Santos this summer?</p> <p>New ERP manual change now online</p> <p>ERP Considerations for Ambler Road work and Battelle?</p> <p>.</p>                                                                                                                                                                                                                                                                                                                                                    | Job Complete                      |
| New                         | <p>Need new Fire Drills at both base stations.</p> <p>Review N193AL Event</p> <p>NEW ERP REVIEW WLL BE ADDED TO iAuditor on 1 DEC, all members of the safety committee will be appointed as participants in this review. Please take the time to add bullet statements to add changes we HAVE made to the ERP procedures or changes that we MAY make to the ERP procedures. (e.g. new flightplan form, Zolio, etc) These results will be incorporated into the new ERP Manual and Checklist. Need this participation!</p> | <p>complete</p> <p>Discussion</p> |

| Safety Management System                                | Evidence                                                                                                                                                                                                                                                                                                                                                                     | Effectiveness                                                                                                                                                              |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Station Checklists-Audit Program- OLD</p> <p>New</p> | <p>MGMT Audits for 2023 finished. Now need to schedule 2023-2024 base mgmt. audits</p> <p>Found bad filtration of Fairbanks fuel system on Monthly audit. Found that the Floating suction was not operational.</p> <p>Additional MGMT Audit notes from GRB and Valdez</p> <p>Man Door on small hangar still needs fixed</p> <p>Alyeska site audits <b>Need to do PS4</b></p> | <p><b>Findings: training for GRB mechanic and Bell Manuals for Pipeline mechanics ?Alyeska?</b></p> <p><b>Really have to stress differential fuel pressure checks!</b></p> |
| <p>Management of Change</p> <p>OLD</p>                  | <p>HEC?</p> <p>Alyeska NVGs?</p>                                                                                                                                                                                                                                                                                                                                             | <p>Finalized?</p> <p><b>Comments from DOO/CP?</b></p>                                                                                                                      |

| Safety Management System                                                                  | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Overall Safety Effectiveness-OLD</p> <p>Use of Checklists/PS5 incident?</p> <p>New</p> | <p>Use of Checklists/PS5 incident?</p> <p>Any changes yet in procedures due to July accident in 311MH? Also Brownout at PS5 to be discussed with these changes</p> <p>Fall Alyeska Training. Have to do Fire Safety as well as Red Cross training this year. Instead of online red cross followed by practical exercises during training, we may have to do the full Red Cross, all day class due to the number of new Pipeline people. Then when to do Fire Safety Training (led by James D.)</p> <p>New Flight Plan</p> <p>New SMS Management Pledge Statement</p> <p>Publishing of Maritime investigation results versus NTSB/FAA result?</p> | <p>From 1<sup>st</sup> quarter</p> <p>Notes? Low visibility factors if that was an issue? Hostile Environment Training.</p> <p>Comments/Notes:</p> <p>13 of 26 Alyeska employees complete on Red Cross and Fuel/Fire extinguisher training. Reschedule for late Nov and Early Dec</p> <p>Flight following lessons learned?</p> <p>Finalized? Add to SMS Manual</p> <p>Rev 2?</p> <p>Discussion</p> |

| Safety Management System                            | Evidence                                                                                                                                                                                                                                                                                                                                                                     | Effectiveness                                                                   |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Employee Assistance Plan and Family Assistance Plan | Can we get review comments of successes and failures for future use of EAP? Red Cross and Red Cross contract ladies did an awesome job. Should we write this into future contingencies? Several companies/Exxon have suggested we retain services of a Emergency Response company like KENYON INC. to do this, but it seems as the plan that CoO and DoO chose worked well.? | Notes/Comments? Leaving this item open until incorporated into the Maritime ERP |
| Safety Management System                            | Evidence                                                                                                                                                                                                                                                                                                                                                                     | Effectiveness                                                                   |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------|
| <p>NA this month. No Otter and HFDM not in use in rotary fleet yet</p> <p>Latitude tracking, Uploads. N325MH Download issue</p> |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 01/18/24 |
|---------------------------------|----------|



## Aviation Investigation Preliminary Report

|                         |                                                                                               |                  |                           |
|-------------------------|-----------------------------------------------------------------------------------------------|------------------|---------------------------|
| Location:               | King Salmon, AK                                                                               | Accident Number: | ANC23LA071                |
| Date & Time:            | September 4, 2023, 16:10 Local                                                                | Registration:    | N193AL (A1); N97EL (A2)   |
| Aircraft:               | BELL HELICOPTER TEXTRON<br>CANADA 206L-4 (A1);<br>DEHAVILLAND DHC-2 (A2)                      | Injuries:        | 1 Minor (A1); 7 None (A2) |
| Flight Conducted Under: | Part 135: Air taxi & commuter - Non-scheduled (A1); Part 91: General aviation - Business (A2) |                  |                           |

On September 4, 2023, about 1610 Alaska daylight time, a DeHavilland DHC-2 float equipped-airplane, N97EL, and a Bell 206L-4 helicopter, N193AL, were involved in a midair collision near King Salmon Alaska. The airplane sustained minor damage, the pilot and six passengers were not injured. The helicopter was substantially damaged, the solo pilot received minor injuries. The airplane was operated as a *Title 14 Code of Federal Regulations Part 91* business flight. The helicopter was operated as a *Title 14 Code of Federal Regulations Part 135* on-demand charter flight.

About 1600, the airplane departed from the Brooks River and flew north to the mouth of the American Creek on a return flight to Alaska's Enchanted Lake Lodge. The airplane pilot then broadcasted a position report over the common traffic advisory frequency, while crossing over the mouth of the American Creek, and proceeded to fly along the left side of the creek at an estimated altitude of 800 ft. mean sea level (MSL). The airplane continued north for an additional 5 miles-after which the pilot initiated a climbing, shallow, right-hand turn. The airplane pilot, seated on the left side of the aircraft, reported that he briefly saw, just inside of his field of vision, what he initially perceived as a 'flock of birds' coming into view off the left side of the airplane. However, it appeared that the 'flock of birds' would pass just underneath the airplane. This perceived 'flock of birds' was, in fact, a helicopter.

The helicopter had departed from the King Salmon Airport (PAKN) at around 1600. It was en route to Maritime Helicopters' base in Homer, Alaska. The helicopter pilot reported that, after departure, he climbed the helicopter to about 1,000 ft above ground level (AGL) and was flying direct to the Homer Airport (PAHO).

As the helicopter passed under the airplane, the floats and propeller of the airplane collided with the helicopter; the airplane began to shake and vibrate violently. The pilot then realized that the airplane had collided with another aircraft, and he turned the airplane 180 degrees in time to see the rapidly descending helicopter. The airplane pilot stated that, as the helicopter continued to descend, he observed the helicopter's tail rotor gearbox separate from the, now spinning, helicopter.

The airplane's propeller and left float impacted the helicopters tail boom and tail rotor drive system, which severed the entire tail rotor gearbox assembly from the tail boom. The helicopter subsequently entered a spinning, uncontrolled decent into the tundra and tree-covered terrain below. The airplane pilot then broadcasted the downed helicopter's location over the common traffic advisory frequency and began to direct other aircraft in the area towards the helicopter wreckage. The airplane pilot then made an emergency landing in a nearby river (See figure 1).

The helicopter pilot reported that he was monitoring the local traffic advisory frequency at the time of the accident. He added that he never saw the airplane, and he was unaware that his helicopter had collided with the airplane until after the accident.

As a result of the midair collision, the airplane sustained minor damage to the floats and propeller, and the helicopter sustained substantial damage to the fuselage, tail boom, and drive train system (See figure 2).



*Figure 1. DeHavilland Beaver N97EL after midair. Photo courtesy of Operator.*



Figure 2. Bell 206L-4 N193AL at accident site. Photo courtesy of Operator.

#### Aircraft and Owner/Operator Information (A1)

|                           |                                   |                                   |                          |
|---------------------------|-----------------------------------|-----------------------------------|--------------------------|
| Aircraft Make:            | BELL HELICOPTER<br>TEXTRON CANADA | Registration:                     | N193AL                   |
| Model/Series:             | 206L-4                            | Aircraft Category:                | Helicopter               |
| Amateur Built:            |                                   |                                   |                          |
| Operator:                 | Maritime Helicopters              | Operating Certificate(s)<br>Held: | On-demand air taxi (135) |
| Operator Designator Code: |                                   |                                   |                          |

#### Aircraft and Owner/Operator Information (A2)

|                           |                                     |                                   |          |
|---------------------------|-------------------------------------|-----------------------------------|----------|
| Aircraft Make:            | DEHAVILLAND                         | Registration:                     | N97EL    |
| Model/Series:             | DHC-2                               | Aircraft Category:                | Airplane |
| Amateur Built:            |                                     |                                   |          |
| Operator:                 | ALASKAS ENCHANTED LAKE<br>LODGE INC | Operating Certificate(s)<br>Held: | None     |
| Operator Designator Code: |                                     |                                   |          |

## Meteorological Information and Flight Plan

|                                  |                   |                              |                  |
|----------------------------------|-------------------|------------------------------|------------------|
| Conditions at Accident Site:     | VMC               | Condition of Light:          | Day              |
| Observation Facility, Elevation: | PAKN,66 ft msl    | Observation Time:            | 16:54 Local      |
| Distance from Accident Site:     | 34 Nautical Miles | Temperature/Dew Point:       | 15°C /7°C        |
| Lowest Cloud Condition:          | Few / 3500 ft AGL | Wind Speed/Gusts, Direction: | 6 knots / , 260° |
| Lowest Ceiling:                  |                   | Visibility:                  | 10 miles         |
| Altimeter Setting:               | 30.06 inches Hg   | Type of Flight Plan Filed:   |                  |
| Departure Point:                 |                   | Destination:                 |                  |

## Wreckage and Impact Information (A1)

|                     |         |                      |                      |
|---------------------|---------|----------------------|----------------------|
| Crew Injuries:      | 1 Minor | Aircraft Damage:     | Substantial          |
| Passenger Injuries: |         | Aircraft Fire:       | None                 |
| Ground Injuries:    |         | Aircraft Explosion:  | None                 |
| Total Injuries:     | 1 Minor | Latitude, Longitude: | 58.889295,-155.62891 |

## Wreckage and Impact Information (A2)

|                     |        |                      |                      |
|---------------------|--------|----------------------|----------------------|
| Crew Injuries:      | 1 None | Aircraft Damage:     | Minor                |
| Passenger Injuries: | 6 None | Aircraft Fire:       | None                 |
| Ground Injuries:    |        | Aircraft Explosion:  | None                 |
| Total Injuries:     | 7 None | Latitude, Longitude: | 58.889295,-155.62891 |

## Administrative Information

|                                   |                                                        |
|-----------------------------------|--------------------------------------------------------|
| Investigator In Charge (IIC):     | Ward, Mark                                             |
| Additional Participating Persons: | Mitch DeRemer; FAA; Anchorage, AK                      |
| Investigation Class:              | <u>Class 3</u>                                         |
| Note:                             | The NTSB did not travel to the scene of this accident. |



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

## Aviation Investigation Preliminary Report

|                         |                                               |                  |            |
|-------------------------|-----------------------------------------------|------------------|------------|
| Location:               | Wainwright, AK                                | Accident Number: | ANC23FA056 |
| Date & Time:            | July 20, 2023, 11:05 Local                    | Registration:    | N311MH     |
| Aircraft:               | Bell 206-L4                                   | Injuries:        | 4 Fatal    |
| Flight Conducted Under: | Part 135: Air taxi & commuter - Non-scheduled |                  |            |

On July 20, 2023, about 1105 Alaska daylight time, a Bell 206L-4 helicopter, N311MH, was destroyed when it was involved in an accident near Wainwright, Alaska. The pilot and three passengers were fatally injured. The helicopter was operated by the pilot as a Title 14 *Code of Federal Regulations* Part 135 on-demand charter flight.

The Helicopter was owned and operated by Maritime Helicopters, Homer, Alaska, and according to the director of operations, the helicopter was under contract to the State of Alaska's Department of Natural Resources (DNR) being used to transport scientific crews to various remote locations within the North Slope region.

The Alaskan North Slope is bounded on the north by the Beaufort Sea and runs from the Canadian border to the maritime boundary with Russia in the west. The North Slope region includes a portion of the Arctic National Wildlife Refuge (ANWR) and National Petroleum Reserve-Alaska (NPRA).

Maritime Helicopters' director of operations reported that the accident helicopter and DNR crew members were based in Utqiagvik, Alaska for the duration of the contract. He added that when the accident helicopter departed from Utqiagvik, about 1001, the anticipated route included a brief stop at the Atkasuk Airport, Atkasuk, Alaska, then continuing on to a remote site(s) to the east of Wainwright before ultimately returning to Utqiagvik. The accident helicopter was expected to return to Utqiagvik by 2030. When the helicopter did not arrive back in Utqiagvik, a North Slope Borough (NSB) Search and Rescue Sikorsky S-92 helicopter was dispatched to search for the missing helicopter.

On July 21, about 0315, NSB search and rescue crews found the partially submerged, fragmented helicopter wreckage in the shallow waters of Lake Itinik located about 30 miles east of Wainwright. See figures 1 and 2.



*Figure 1 Aerial view Lake Tinik with wreckage noted in circle (North Slope Borough Search and Rescue photo).*



*Figure 2 Aerial view of fragmented wreckage, partially submerged in Lake Itinik (North Slope Borough Search and Rescue photo).*

The accident helicopter was equipped with a Honeywell Sky Connect Tracker system enabling real-time, flight following capabilities. The Sky Connect Tracker system broadcasts flight status data in 3-minute intervals to satellite-based receivers.

A review of archived Sky Connect data revealed that the accident helicopter departed from Utqiagvik at 1001, then it proceeded southwest to the Atkasuk Airport. After a brief stop at the Atkasuk Airport, the helicopter departed, and traveled in a northwesterly direction. The Sky Connect data ends as the helicopter passed over the southeastern shoreline of Lake Itinik, while continuing to travel in a northwesterly direction, at an altitude of 144 ft above mean sea level, with a ground speed of 93 knots.

Lake Itinik is a large, oval shaped, arctic lake, measuring more than three miles across in some areas. The terrain around Lake Itinik consists of flat, featureless, arctic tundra-covered terrain. The elevation of Lake Itinik is reported to be about 56 ft above mean sea level.

The National Transportation Safety Board's (NTSB) investigator-in-charge (IIC) traveled to Utqiagvik, along with parties to the investigation and a wreckage recovery team. On July 30, the NTSB IIC and recovery personnel successfully recovered the helicopter wreckage to the shoreline of Lake Itinik. The wreckage was later transported, by helicopter, to Utqiagvik that same day.

An initial post-accident wreckage examination was accomplished on July 30 and 31, in Utqiagvik, with parties to the investigation in attendance. The wreckage was subsequently transported to Anchorage, Alaska, and additional detailed wreckage examinations are pending.

### Aircraft and Owner/Operator Information

|                |                             |                                   |                                                                                                  |
|----------------|-----------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------|
| Aircraft Make: | Bell                        | Registration:                     | N311MH                                                                                           |
| Model/Series:  | 206-L4                      | Aircraft Category:                | Helicopter                                                                                       |
| Amateur Built: |                             |                                   |                                                                                                  |
| Operator:      | MARITIME HELICOPTERS<br>INC | Operating Certificate(s)<br>Held: | Rotorcraft external load<br>(133), Commuter air carrier<br>(135), Agricultural aircraft<br>(137) |

Operator Designator Code:

### Meteorological Information and Flight Plan

|                                  |                    |                              |                      |
|----------------------------------|--------------------|------------------------------|----------------------|
| Conditions at Accident Site:     | VMC                | Condition of Light:          | Day                  |
| Observation Facility, Elevation: | PATQ, 96 ft msl    | Observation Time:            | 10:56 Local          |
| Distance from Accident Site:     | 25 Nautical Miles  | Temperature/Dew Point:       | 18°C / 14°C          |
| Lowest Cloud Condition:          | Clear              | Wind Speed/Gusts, Direction: | / ,                  |
| Lowest Ceiling:                  | None               | Visibility:                  | 8 miles              |
| Altimeter Setting:               | 29.91 inches Hg    | Type of Flight Plan Filed:   | Company VFR          |
| Departure Point:                 | Ataqsuk, AK (PATQ) | Destination:                 | Utqiagvik , AK (BRW) |

### Wreckage and Impact Information

|                     |         |                      |                            |
|---------------------|---------|----------------------|----------------------------|
| Crew Injuries:      | 1 Fatal | Aircraft Damage:     | Destroyed                  |
| Passenger Injuries: | 3 Fatal | Aircraft Fire:       | None                       |
| Ground Injuries:    |         | Aircraft Explosion:  | None                       |
| Total Injuries:     | 4 Fatal | Latitude, Longitude: | 70.653972,-158.55984 (est) |

### Administrative Information

|                                   |                                                                                                                                                                                                                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Investigator In Charge (IIC):     | Ward, Mark                                                                                                                                                                                                                                                                        |
| Additional Participating Persons: | Craig Kenmonth; FAA; Fairbanks, AK<br>Dennis Busch; Maritime Helicopters; Homer , AK<br>Mark C. Stuntzner; Bell Helicopter Flight Safety; Fort Worth , TX<br>Matt McLuckie; Bell Helicopter Flight Safety; Fort Worth , TX<br>Nick Shepler; Rolls Royce Engines; Indianapolis, IN |
| Investigation Class:              | <a href="#">Class 3</a>                                                                                                                                                                                                                                                           |

Note:





**Maritime Helicopters**

**CASS**

Continued Airworthiness Surveillance System

**2nd Quarter**

**Aug 2023**

**Meeting minutes**

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 08/24/23 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                               |
|--------------------------|-------------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                                  |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                                  |
| <b>FACILITATOR</b>       | Isaac Mackey                                                                  |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Dave Busga, Matt Stevens, Dennis Busch and Steve Slade. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Notable A/C items since last CASS meeting  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                       | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>FIR202303<br/>Transmission<br/>Chip</b> | <p><b>04/06/2023/1120 Bell 206L4 N193AL</b></p> <p>On Post Annual Maintenance flight, in order to fly 0.5 for re-torques, while flying, the TRANS CHIP light illuminated. All other XMSN systems were normal. Aircraft was landed at Homer Airport and shut down was accomplished</p> <p>Maintenance removed debris from chip detectors. Debris/particles were found to be within limits for chips. Thirty-minute ground run was accomplished. No further chips were noted. Aircraft returned to service.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                    |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                               | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Move to open action items | Responsible Person |
| <b>FIR 202304<br/>Alternator Issues</b>            | <p><b>04/12/2023/1700 Cherokee 6, 901BDL</b></p> <p>Seven miles NE of Homer, Pilot noticed alert for loss of electrical power. Verified indicators and turned alternator toggle OFF 30 seconds and turned back on. Power was restored and ammeter rose to 70 amps and turned back offline, pilot turned toggle OFF. Aircraft was returned to base at Homer, securing unnecessary electrical (fan, Etis/Aspin, Nav light, Landing light. Flight follower was notified and landing was performed in Homer without incident. Verified EP checklist before landing checks.</p> <p>Removed and replaced alternator with overhauled unit. The problem was fixed temporarily. Replaced with Hartzell Plane Power STC'd Alternator. Ops checked good. Aircraft returned to service.</p> | Closed                    |                    |
| <b>FIR 202305<br/>Engine driven fuel pump leak</b> | <p><b>04/21/2023/1000 Bell 206L3 N304MH</b></p> <p>While performing a series of flights for HEA, while on the ramp in Homer, it was noticed that fuel was leaking from the engine driven fuel pump. Another aircraft was ready and dispatched within minutes.</p> <p>Removed and replaced pump with O/H pump from Fairbanks. While removing the pump and FCU it was found that the tube assy. from the governor Tee was damaged. The part was in stock in Homer and replaced. Aircraft returned to service</p>                                                                                                                                                                                                                                                                  | Closed                    |                    |
| <b>GOR 202305<br/>Damaged PC Line</b>              | <p><b>04/21/2023 Bell 206L3 N304MH</b></p> <p>Found PC Line from Governor Tee to FCU to be damaged beyond limits</p> <p>Removed and replaced line with new. Conducted toolbox talk about the importance of PC lines.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Closed                    |                    |

| Notable A/C items since last CASS meeting                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>GOR 2023</b><br><br><b>Incomplete Maintenance Task</b> | <p><b>04/22/2023/1100 Bell 206L3 N304MH</b></p> <p>While performing the first start after fuel pump replacement the aircraft started but the engine idled erratically. Shut down aircraft. Found PC line from governor accumulator to FCU to be loose.</p> <p>Tightened line. Ops check was normal and ground run leak checks were completed.</p> <p>Even though the mechanics were told specifically to double check all PC lines, the mechanic working on that side said he didn't know there was a B nut on the back side of the accumulator. Conducted toolbox talk about the importance of PC lines.</p> | Closed                    |                    |
| <b>FIR 202306</b><br><br><b>Avionics Failures</b>         | <p><b>04/27/2023/0815 Bell 407 N319MH</b></p> <p>During runup after application of Avionics Master Switch, the FM1, Sat Radio, Transponder, and VHF did not power up. Alyeska Pipeline had to cancel for the day.</p> <p>Maintenance found the master avionics switch bad. Ordered new switch and replaced. No defects noted. Aircraft returned to service.</p>                                                                                                                                                                                                                                               | Closed                    |                    |

| Notable A/C items since last CASS meeting              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                   | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
| <b>FIR 202307</b><br><br><b>N1 Tach Generator Fail</b> | <p><b>05/14/2023/1000 Bell 206L4 N314MH</b></p> <p>At approximately 1000 PIC with one passenger (AT&amp;T tech Frank Lovett) departed PSS hangar to reposition to PAPR for refuel. While shutting down at PAPR while Aircraft was at idle for 2 minute timer, the PIC got an ENG OUT caution light with corresponding AUDIO. All indications were normal for idle speed except N1, which read 0. PIC silenced the audio and confirmed one more time that all other indications were normal. the N1 indication jumped back to normal for approximately 10 seconds then went to O again with corresponding ENG OUT caution and AUDIO. Once aircraft was completely shutdown PIC went to the tower and called the mechanic (Larry Jacobs), the mechanic drove to PAPR for troubleshooting. After refuel operations the AT&amp;T tech drove the vehicle back to PSS and PIC and mechanic started the aircraft with all normal indications. PIG/Mechanic repositioned the aircraft back to the PSS Hangar, on Final to the hangar N1 indications went to O with no ENG OUT caution or AUDIO. Once safely on the ground the crew had intermittent ENG OUT caution and AUDIO. After 2 minute timer PIC turned throttle off and got ENG OUT caution and AUDIO for the last time.</p> <p>Gained access to N1 Tach Generator and Gas Producer (N1) Indicator. inspected all wiring at Indicator and Tach Generator and also checked wiring from Tach Generator to Indicator with multimeter. No defects noted and all multimeter testing was good. Installed new Tach Generator P/N 32005-30 S/N 298399. All maintenance C/W IAW BHT-206L4MM.</p> <p>Reinstalled all items that were removed for access. Ground run aircraft for 5 minutes at idle then 5 minutes at 100% then shut down. Did a visual inspection of all areas then went flying for the POC. Landed at Prospect Creek to refuel then restarted and returned to Pump Station 5. A total of 3 starts and flight time of .7 was accomplished. All indications were normal.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                    |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                  | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Move to open action items | Responsible Person |
| <b>FIR 202308</b><br><b>Overflight of Flight Duty</b> | <p><b>05/23/2023/1745 B407 N319MH</b></p> <p>Pilot departed Metro field for mountaintop refuel operations at Far Mountain. At the day's end, there were 8.8 hours logged on the revenue Hobbs meter in a combination of Part 133 and Part 135 time. Pilot admits to miscalculating the time on the revenue Hobbs.</p> <p>DoO Comments: It is imperative that pilot's plan to arrive at the end of the duty day with less than 8 hours or less of flight time. A cumulative total should be kept to ensure enough time to return</p>                                                                                                                                                                             | Closed                    |                    |
| <b>GOR 202308</b><br><b>Fuel Control Leak</b>         | <p><b>05/30/2023 Bell 206L3 N306MH</b></p> <p>During Scheduled maintenance, the fuel system required bleeding. It was noticed that the fuel control was leaking from the max fuel flow adjustment screw.</p> <p>Removed and replaced fuel control unit. The FCU was only 137.1 hours out of Overhaul. The vendor agreed to supply a loaner FCU while ours was repaired on warranty. Completed fuel control unit, ground run, and ops check. Aircraft returned to service. No customer was delayed.</p>                                                                                                                                                                                                          | Closed                    |                    |
| <b>FIR 202309</b><br><b>Transmission Chip</b>         | <p><b>05/31/2023/1030 Bell 407 N309MH</b></p> <p>XMSN Chip illuminated after takeoff from Livengood ATT site. The pilot was solo at the time. Had two pax at site two at DOT yard near the Eliot highway. Opted to land near road in case additional maintenance was needed. Contacted MTF maintenance. Pilot and Chief inspector discussed removal, analysis, and cleaning of chip detectors. Cleaned, Re-installed chip detectors and the chip detector did not illuminate during leak check or "penalty" run. Approximately 90-minute delay to customer.</p> <p>Upon return of aircraft, maintenance pulled chip detectors and inspected. No faults noted. Performed leak check and returned to service.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>GOR 202309</b><br><br><b>Hydraulic Servo Bearing Nut Loose</b> | <p><b>06/08/2023/1000 Bell 412 N330MH</b></p> <p>Performing Calendar inspection A0302 300Hr/12-month inspection. At step #S.3.10, you are to remove the actuator attaching bolt. Upon removing the bolt, the rod end moved which indicates that the servo rod is not aligned. The next step would be to realign the servo. Upon cutting the safety wire to the cylinder attachment nuts. It was then noticed that the nuts were only hand tightened prior to being safetied together. The attachment nut and jam nut must be torqued to 900-1100-inch pounds. This task from alignment to installation of the lower support bolt is an RII task as well.</p> <p>Performed the remainder of the A0302 inspection. Realigned the servo and support. Torqued the nut and jam nut. Reattached the attachment bolt and ensured rod end bearing had no side load.</p> <p><b>The Aug 24<sup>th</sup> CASS meeting moved this to an open item</b></p> | Open                      | Isaac Mackey       |
| <b>FIR 202310</b><br><br><b>Tail Rotor Gearbox Chip</b>           | <p><b>06/5/2023/am hours BO-105 N327MH</b></p> <p>Aircraft was being started for Customers from JPARC and the Tail Rotor Gearbox chip illuminated on runup. The aircraft was shut down. The chip detector was cleaned of small debris and light extinguished when detector was reinstalled. An aircraft runup was attempted again but the gearbox chip illuminated once more. Drain and flush was conducted on the intermediate gearbox and the oil showed "glitter" in the drain bucket. A thirty-minute ground run was accomplished with no chip evident. Oil was drained and flushed again after a one-hour flight and then after refilling, the gearbox did not chip again. Aircraft was returned to service. Aircraft has flown 4.9 hours as of this report (6/13/23) with no illumination of the T/R gearbox.</p> <p>Customer was rescheduled for the following day.</p>                                                                | Closed                    |                    |

| Notable A/C items since last CASS meeting                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                    |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                    | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Move to open action items | Responsible Person |
| <b>GOR 202310</b><br><br><b>Tool Found in Engine Compartment</b>        | <p><b>06/09/2023/0750 Bell 407 N407PA</b></p> <p>Mechanic was conducting a daily inspection and while opening the engine compartment, a socket wrench extension was found sitting under the drive shaft. In the logbook, an aux tank install and two AAIP inspections (A0057 and A0100) had been performed with no FOD checks being written up after maintenance was performed.</p> <p>Tool was removed from aircraft. A FOD check was then performed on aircraft with no other faults found. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Closed                    |                    |
| <b>FIR 202311</b><br><br><b>Sling load damage to customer equipment</b> | <p><b>06/26/2023/1800 Bell 206L4 N316MH</b></p> <p>Approx. 1800 hrs. on 6/26/2023, Pilot and Geophysical tech were testing equipment attached to a 300-foot longline. The pilot noted to the passenger that his equipment was causing interference in the ICS and radios making them unintelligible. The testing was being performed in close proximity to Metro Field. The aircraft took off to the south and the passenger said he was having trouble with the equipment and that the aircraft needed to return back to Metro. Pilot returned the aircraft to Metro field but on final, the ground technician with the radio said that the load was too low, despite the pilot's estimate of 75-100' load height. The pilot couldn't hear the ground tech's radio due to static on the radios. While descending to the Maritime ramp, the pilot felt the load contact the ground. Cross Checking out the bubble window, the load was on the ground, across the float pond from the Maritime ramp. Pilot picked up the load which was now hanging nose low from the initial contact. Load was returned to Maritime. Pilot commented that the inability to judge the precise height, in combination with no shadows due to overcast, and lack of good ground communications led to the incident.</p> <p>Some damage was done to the geophysical measuring equipment. Unknown at the time of this writing.</p> <p>This resulted in a three day delay to the customers project while the equipment was being repaired.</p> | Closed                    |                    |
| SDR,MIR,MDR, not listed on the notable A/C items list                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                    |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                          |
|----------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list |
| CAN 23-01 ASB 412-23-190                                 |
| CAN 23-02 AD 2023-03-01                                  |
|                                                          |
|                                                          |
|                                                          |
|                                                          |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2023 |                                                   |
|----------------|---------------------------------------------------|
| 1.             | N901BL – 02/08/23 – HOM – Mag issue               |
| 2.             | N314MH – 02/24/23 – PS5 – Facet filter assy       |
| 3.             | N314MH – 02/25/23 – PS5 – Turbine overtemp        |
| 4.             | N326MH – 03/29/23 – VDZ – Anti ice servo          |
| 5.             | N316MH – 04/22/23 – PS5 – Oil cooler bearing      |
| 6.             | N314MH – 05/14/23 – PS5 – N1 tach                 |
| 7.             | N193AL – 05/17/23 – HOM – fuel probe              |
| 8.             | N407RH – 05/19/23 – MTF - Overtemp                |
| 9.             | N312MH – 06/28/23 – Coldfoot – drive link bushing |

| AOG's for 2022 by Location |   |
|----------------------------|---|
| Deadhorse                  |   |
| PS4                        |   |
| Coldfoot                   | 1 |
| PS5                        | 4 |
| MTF                        | 1 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| Kenia                      |   |
| HOM                        | 2 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Maintenance training |
|----------------------|
|                      |

| Safety Management System    | Evidence                                                                                                                                                         | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old | ERP 28 current-Page Three for Santos this summer?                                                                                                                | Exercise for Santos this summer or not? <b>Did not do. Mentioned in Santos Team meeting. Still awaiting their comments on Page three of ERP Checklist</b>                                                                                                                                                                                                                                                                    |
| New                         | New ERP manual change now online<br><br>ERP Considerations for Ambler Road work and Battelle?<br><br>.<br><br><b>Need new Fire Drills at both base stations.</b> | <b>Did not do an ERP exercise associated with Batelle. Along with the accident this summer, do we need a review of flight following procedures. Notes?<br/>A. write off times on company flight plan.<br/>B. refine either time enroute or estimated time of return (e.g., JPARC listing 1500 or 1700 instead of “full day” based on their estimate on 8 or 10 hr. duty day)<br/>C. Mechanics in field to flight follow?</b> |

| Safety Management System              | Evidence                                                                                                         | Effectiveness                                                                                                                                                                                             |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Station Checklists-Audit Program- OLD | MGMT Audits for 2023 finished.                                                                                   | Findings: research ventilation solutions for times that humidifier needs to be used. Paint shop/Fairbanks <b>Notes?</b><br><br>Inspect deluge sprinkler system in Homer? ( <b>COMPLETE</b> , thanks Matt) |
| New                                   | Additional MGMT Audit notes from GRB and Valdez<br><br>Anything we are not covering?<br><br>Alyeska site audits? | Findings: training for GRB mechanic and Bell Manuals for Pipeline mechanics ?Alyeska?                                                                                                                     |
| Management of Change<br><br>OLD       | HEC?<br><br>Alyeska NVGs?                                                                                        | Finalized?<br><br>Comments from DOO/CP?                                                                                                                                                                   |

| Safety Management System                                                                  | Evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Effectiveness                                                                                                                                      |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Overall Safety Effectiveness-OLD</p> <p>Use of Checklists/PS5 incident?</p> <p>New</p> | <p>Use of Checklists/PS5 incident?</p> <p>Any changes yet in procedures due to July accident in 311MH? Also Brownout at PS5 to be discussed with these changes</p> <p>Fall Alyeska Training. Have to do Fire Safety as well as Red Cross training this year. Instead of online red cross followed by practical exercises during training, we may have to do the full Red Cross, all day class due to the number of new Pipeline people. Then when to do Fire Safety Training (led by James D.)</p> | <p>From 1<sup>st</sup> quarter</p> <p>Notes? Low visibility factors if that was an issue? Hostile Environment Training.</p> <p>Comments/Notes:</p> |
| <p>Employee Assistance Plan and Family Assistance Plan</p>                                | <p>Can we get review comments of successes and failures for future use of EAP? Red Cross and Red Cross contract ladies did an awesome job. Should we write this into future contingencies? Several companies/Exxon have suggested we retain services of a Emergency Response company like KENYON INC. to do this, but it seems as the plan that CoO and DoO chose worked well.?</p>                                                                                                                | <p>Notes/Comments?</p>                                                                                                                             |



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

4<sup>th</sup> / 1<sup>st</sup> Quarter

April 2023

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 04/04/23 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                         |
|--------------------------|---------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                            |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                            |
| <b>FACILITATOR</b>       | Isaac Mackey                                            |
| <b>ATTENDEES</b>         | Dave Jones, Dave Busga, Matt Stevens, and Dennis Busch. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <p><b>03/15/22</b></p> <p>Due to near continuous snow fall over the last two weeks a buildup of snow about three feet thick was stuck to the roof of the hangar. The snow usually sheds on it own but due to low temps that hasn't been happening this year. To force shedding we opened the attic door to allow heat into the area under the roof. The heat was successful, and the roof started slowly shedding but this created a large over hanging slab of snow, over the entryway to the hangar. The slab was about 3 feet thick and over hung the entrance by about 7 or 8 feet. The overhang being so far from the wall was putting an extreme torque load on the entryway roof causing it to bend and some of the supports to move slightly out of position. I decided to knock the slab down with a long 2x4. When the slab came down a piece of ice ended up rolling back off the snow pile and shattered a window in the survival suit room. Later another window was found broken in the changing room, however only the outer pane is broken on this window, and we do not know when this occurred.</p> <p>Snow was cleared from the entry way. A Styrofoam insert was cut to size, inserted, and sealed into the survival suit room window. No action was taken with the other window as the inner pane is still intact. Access to the outside of the windows is blocked by ice that is about 10 feet thick. As of this time only half the roof has shed so there would be considerable risk accessing the outside of the window due to no overhead protection. New windows will need to be</p> |              | Dennis Busch       |          | Closed |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INITIATED BY | RESPONSIBLE PERSON         | DEADLINE | CLOSED |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------|----------|--------|
| <p>installed at a time when outside of the windows can be accessed safely. We also repositioned the dumpster so that snow could fall away from the building easier.</p> <p><b>Nov 10<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                            |          |        |
| <p><b>GOR 202206</b><br/> <b>Rejected Fuel Shipment      03/22/2022 Galbraith Lake Fuel Skid</b></p> <p>A fuel delivery by STS to Galbraith Lake/PS2 fuel skid was rejected on 03/22/2022. After inspection of sample taken from the STR fuel delivery trailer it failed the "Clear and Bright" portion of the inspection. Unknown particles were found in suspension of fuel sample by the PS4 mechanic as well as STR delivery driver. PS4 mechanic notified Maritime Helicopters fuel manager Jeremy Lister and Chief Inspector Isaac Mackey after inspection was complete.</p> <p><b>Nov 10<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                               | Isaac Mackey | Isaac Mackey               |          | Closed |
| <p><b>07/13/2020 N600MH</b></p> <p>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>Pursuing remediation for system. More to follow</p> <p><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b></p> <p><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.</p> <p><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>04/29/21</b> Software update in progress</p> <p><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>Nov 11<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>Jan 27<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>April 21<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>Nov 10<sup>th</sup> CASS Meeting Closed this item.</b></p> | Isaac Mackey | Mark Hedlund<br>Scott Fell | TBD      | Closed |

| Notable A/C items since last CASS meeting        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                             | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>FIR 202228<br/>Torque<br/>Transducer</b>      | <p><b>11/01/2022 B407 N319MH</b></p> <p>While taking off from Franklin Bluff Repeater at 1515L Pilot began to pull power and had a little snow blowing around. I then continued to climb with no issue. At approx. 40ft AGL I completed a 90-degree pedal turn from a heading of west to a heading of north. Once this turn was complete the aircraft began to descend slowly. At this time, I had about 10 knots of forward airspeed and the aircraft continued to descend. At approx. 5 feet off the ground, I continued to pull power until the descent was arrested and I was level and gaining airspeed. This entire event took about 5 seconds. After climb and established in level flight I noticed I had a check instrument light on the caution panel. I also noticed an E proceeding the TQ on the indicator.</p> <p>I did not at any time see any abnormal indications on any other instrument. I also did not feel anything abnormal with the aircraft, I just could not climb. During this takeoff I had 2 passengers with a total weight of 465. I also had 40 lbs. of cargo and 801 lbs. of fuel. This brought the total weight of the aircraft to 4685lbs. The weather at Franklin Bluff was a light fog layer at about 200ft and greater than 2 miles visibility with no precipitation noticed and the temperature was -15C. Franklin Bluff is located at 900 MSL. I was approx. 3 hours into my flight when this happened. After arrival at PS4 the mechanic and I noticed some ice on the leading edge of the rotor blades about 3-4 feet out from the rotor hub. There was no ice anywhere else on the aircraft. Besides the blowing snow on takeoff and landing I did not notice any visible moisture that I had flown through. I also did not notice any ice on the aircraft during the walk around prior to take off at Franklin Bluffs.</p> <p>Performed aircraft inspection IAW 1.31 of BHT 407 maintenance manual. No engine inspections required on engine per Rolls Royce maintenance manual. Torque Transducer issued from Fairbanks. Replaced transducer, aircraft returned to service.</p> | Closed                    |                    |
| <b>GOR 202224<br/>ELT Battery<br/>Overheated</b> | <p><b>12/05/2022 Bell 206L4 N314MH MTF</b></p> <p>During 12-month ELT check for ACK E-04, ELT Case for battery was noticed to be discolored, and battery showed zero volts. Determined that the battery had overheated and luckily did not cause a fire.</p> <p>Completed 12-month ELT check and determined the battery pack was the issue. New Battery pack was ordered, and ELT was MEL'd. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Closed                    |                    |

| Notable A/C items since last CASS meeting                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                    |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                 | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Move to open action items | Responsible Person |
| <b>202224<br/>Driven off road by trash truck</b>                     | <p><b>12/07/2022 2019 Chevy Fairbanks</b></p> <p>While driving East on Vanhorn Rd, and Alaska Waste garbage truck coming from the opposite direction made a LH Turn in front of our company vehicle. Driver applied brakes and departed the roadway to avoid hitting the side of the truck. Maritime C2500 passed by the garbage truck on the left and struck a snowbank after leaving the improved portion of the parking lot (Custom Canvas Building) Truck came to a stop in very deep snow in the ditch. Garbage truck stopped and the Driver admitted fault and the trooper arrived and took statements.</p>                                                                                                                                                                                                                           | Closed                    |                    |
| <b>GOR 202225<br/>Cargo Hook Maintenance / Strip Threads on bolt</b> | <p><b>12/13/2022 Bell 407 N407RH MTF</b></p> <p>Apprentice was helping to install the cargo hook kit, specifically the main beam, and stripped threads on installation hardware by torquing to 25 ft/lbs instead of 25 in/lbs.</p> <p>During correction of these stripped heads, mechanic attempted to drill through bolt heads to remove stripped bolts but drilled into the surface of the cargo hook beam. The beam replacement cost after damage was approximately \$15,000.00</p>                                                                                                                                                                                                                                                                                                                                                      | Closed                    |                    |
| <b>FIR 202229<br/>Hot start/Battery Issue</b>                        | <p><b>12/22/2022 B407 N325MH</b></p> <p>During first start attempt, engine didn't light off after 30 seconds. Abort start was performed, and NG coasted down to zero. MGT was normal during attempted start sequence. Fuel pressure was observed above the red line during the first start sequence. Battery voltage was 25.2 volts prior to first start. Prior to second start, the battery voltage was 24.5. Initiated 2nd start attempt and engine spooled up normally and began to light off. Pilot observed flashes from rear of aircraft and aborted start. Observed flames from exhaust and repositioned rotor blades away from exhaust. Notified maintenance.</p> <p>Inspected exhaust and MR blade area for defects with none noted. Performed a cart start for troubleshooting which was normal. Removed and replaced battery</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>GOR 202223</b><br><br><b>Flight Control Hardware not Torqued</b> | <b>01/08/2023 Bell 206L4 N314MH Metro Field</b><br><br>During the yearly inspection, the Main Transmission was replaced and so the flight controls were disconnected at the swashplate. The Collective Control Rod was removed entirely to facilitate XMSN removal. At install, the controls were connected and secured at the swashplate. The collective rod link was installed and secured only secured at the swash plate end. At the servo end, the hardware was installed but not tightened or secured. There was a double check by another mechanic. The aircraft was run for twenty minutes for the transmission install and leak checks. After this, the transmission was oil, oil filter, oil jets, and restricted valve, and chip detectors were inspected. During these inspections, the loose hardware on the collective control rod was discovered. Chief Inspector was then notified.<br><br>Replaced nut on the Collective Servo end of the control rod. Nut was torqued and cotter pinned. | Closed                    |                    |
| <b>GOR 202301</b><br><br><b>Missing O-rings</b>                     | <b>01/25/2023 Bell 407 N309MH MTF</b><br><br>During the daily airworthiness insp. It was found that O-Rings on the crosshead end of the tail rotor pitch change links were missing.<br><br>The Cross head and P/C links on the tail rotor were measured and found to be out of limits. The missing O-Ring caused wear on both the cross head and P/C link ends. The cross head and P/C links were replaced with new parts. \$5000 total. Aircraft returned to service.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Closed                    |                    |
| <b>GOR 202302</b><br><br><b>Improper Blade Bolt Tension</b>         | <b>01/27/2023 B407 N309MH MTF</b><br><br>During the unfolding of rotor blades after hangar storage, crew found expandable bolts to be noticeably light on torque with minimal tension. After checking bolts were found to be at 15 lbs.<br><br>Blade bolts were corrected to proper torque of 50-75 lbs. Aircraft returned to service.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Closed                    |                    |

| Notable A/C items since last CASS meeting                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                         | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>FIR 202301<br/>Hot Start</b>                              | <p><b>02/25/2023 Bell 206L4 N314MH</b></p> <p>A hot start occurred during a maintenance run up. The throttle was open to idle when the starter was engaged. Pilot had checked the throttle, but not verified that it was fully closed by pushing the throttle lock button and rolling the throttle back to the off position. When the start was initiated, the instant light-off and high temperature made the pilot hesitate and tried to place the throttle to stop, although it was in the idle position and he would have had to push the throttle stop button to roll it all the way off. The TOT exceedance light came on although the pilot was unaware of how high the temperature had gotten.</p> <p>Corrective action included replacing the burner can, outer combustion case, igniter plug and the engine turbine section. Ground runs good. Aircraft returned to service.</p> <p>Turbine repair cost \$161K</p> | Closed                    |                    |
| <b>GOR 202303<br/>Fuel Line not reconnected after refuel</b> | <p><b>03/13/2023 BO105 N327MH</b></p> <p>Fuel line did not get reconnected after defueling procedure, before attempting ground run. Fuel leak occurred and abort start was performed.</p> <p>Fuel system was inspected, and all lines attached properly. Ground run proceeded normally. Aircraft returned to service</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Closed                    |                    |
| <b>FIR 202302<br/>Cracked Windscreen</b>                     | <p><b>03/25/2023 Bell 407 N308MH</b></p> <p>A 4.6" crack was spotted on the R/H Windscreen (corner) moments after landing at the Gulkana Airport for refuel. The crack was not noted at any time prior to this particular landing, including the morning preflight at GRB. So, it is not known when the damage occurred. The pilot did report hearing a single popping sound in the cockpit approx. one hour prior, in flight. The crack was just below the pilot's field of view.</p> <p>Upon postflight inspection, the mechanic carried out a temporary plexiglass window repair, but stop-drilling the crack and sticking the crack with lock wire then sealing the crack with epoxy sealant. Fairbanks maintenance was notified, and a windscreen put on order.</p>                                                                                                                                                     | Closed                    |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

| CANS, CAS MEMOS not listed on the notable A/C items list |
|----------------------------------------------------------|
| CAN 22-15 AD 2022-20-04                                  |
| CAN 22-16 AD 2022-22-08                                  |
| CAN 22-17 AD 2022-20-14                                  |
| CAN 22-18 AD 2022-24-07                                  |
| CAN 22-19 AD 2022-23-02                                  |
| CAN 22-20 407 tailboom torque check                      |
| CAN 22-21 ASB 407-22-128                                 |
| CAN 22-22 AD 2022-27-08                                  |
| CAN 23-01 ASB 412-23-190                                 |
| CAN 23-02 AD 2023-03-01                                  |
|                                                          |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2023 |                                             |
|----------------|---------------------------------------------|
| 1.             | N901BL – 02/08/23 – HOM – Mag issue         |
| 2.             | N314MH – 02/24/23 – PS5 – Facet filter assy |
| 3.             | N314MH – 02/25/23 – PS5 – Turbine overtemp  |
| 4.             | N326MH – 03/29/23 – VDZ – Anti ice servo    |
| 5.             |                                             |

| AOG's for 2022 by Location |   |
|----------------------------|---|
| Deadhorse                  |   |
| PS4                        |   |
| Coldfoot                   |   |
| PS5                        | 2 |
| MTF                        |   |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| Kenia                      |   |
| HOM                        | 1 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Maintenance training |
|----------------------|
|                      |

| Safety Management System    | Evidence                                                              | Effectiveness                           |
|-----------------------------|-----------------------------------------------------------------------|-----------------------------------------|
| Emergency Response Plan-Old | ERP 28 current-Page Three for Santos this summer?                     | Exercise for Santos this summer or not? |
|                             | New ERP manual change now online                                      |                                         |
| New                         | ERP Considerations for Ambler Road work and Battelle?                 |                                         |
|                             | Did not do Fire Drills associated with annual mgmt. audits this year. | When?                                   |

| Safety Management System             | Evidence                                                  | Effectiveness                                                                                                                                                                 |
|--------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Station Checklists-Audit Program-OLD | MGMT Audits for 2023 finished.                            | Findings: research ventilation solutions for times that humidifier needs to be used.<br><br>Forklift got Oil Change finally!<br><br>Inspect deluge sprinkler system in Homer? |
| New                                  | Anything we are not covering?<br><br>Alyeska site audits? |                                                                                                                                                                               |
| Management of Change OLD             | HEC?<br>Alyeska NVGs?                                     | Finalized?<br>Comments from DOO/CP?                                                                                                                                           |
| Overall Safety Effectiveness- OLD    |                                                           |                                                                                                                                                                               |
| Use of Checklists/PS5 incident?      | Use of Checklists/PS5 incident?                           | Add to Safety Letter for quarter                                                                                                                                              |



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

1<sup>st</sup> Quarter

April 2022

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 04/21/22 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                   |
|--------------------------|-------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                      |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                      |
| <b>FACILITATOR</b>       | Isaac Mackey                                                      |
| <b>ATTENDEES</b>         | Bob Fell Steve Slade, Dave Buzga, Mark Hedlund, and Dennis Busch. |

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15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | INITIATED BY | RESPONSIBLE PERSON         | DEADLINE | CLOSED |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------|----------|--------|
| <b>07/13/2020 N600MH</b><br><br>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.<br><br><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b><br><br>Pursuing remediation for system. More to follow<br><br><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b><br><br><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.<br><br><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b><br><br><b>04/29/21</b> Software update in progress<br><br><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b><br><br><b>July 30<sup>th</sup> CASS Meeting left this an open item.</b><br><br><b>Nov 11<sup>th</sup> CASS Meeting left this an open item.</b> | Isaac Mackey | Mark Hedlund<br>Scott Fell | TBD      | Open   |

| OLD OPEN ACTION ITEMS                                             | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <b>Jan 27<sup>th</sup> CASS Meeting left this an open item.</b>   |              |                    |          |        |
| <b>April 21<sup>st</sup> CASS Meeting left this an open item.</b> |              |                    |          |        |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>FIR: 202201<br/>Hot Start</b>          | <p><b>01/20/2022 Bell 206L4 N314MH</b></p> <p>While conducting a normal start sequence, the TOT initially began to rise appropriately with the introduction of fuel through the throttle. A few seconds later it started to drop and didn't remedy with added throttle. Pilot immediately recognized they had forgotten to turn on the fuel valve. Diverting their eyes to the fuel valve, pilot reached up and turned it on and immediately knew it was the inappropriate action for the situation. The TOT was rising very quickly; pilot turned the fuel valve back off and returned the throttle to the off position as fast as she could to remedy the situation. The TOT needle momentarily touched the red dot and the overtemp light illuminated. Pilot notified the assigned mechanic, and we pulled the aircraft back into the hangar. We each called our department leads for notification of the event.</p> <p>Mechanic was Inside the helicopter bay when A/C N314MH was doing the initial morning start. Hearing the A/C starting &amp; then shutting down Mechanic went outside &amp; Pilot informed him of what happened in the start and seeing that the TOT Over Temp light was on. Crew brought the A/C back into the helicopter bay &amp; mechanic called Fairbanks and reported of what happened to Chief Inspector. Mechanic extinguished the TOT overtemp light and it was decided that an inspection of the engine turbine was required. The inspection of the turbine burner can, liner, nozzle, and the 1st. wheel found no damage from the overtemp start. Completed the A/C leak check and MOC. Aircraft returned to service.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                    |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                          | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Move to open action items | Responsible Person |
| <b>FIR: 202202<br/>ECU Failure</b>                            | <p><b>02/20/2022 B407 N308MH</b></p> <p>On approach to Delta Fuel skid, the Restart Fault and FADEC Degraded lights came on. Pilot finished the landing and rolled the throttle to idle with no reduction in NR. He referred to the Emergency Check List. There was a note; It might be necessary to use the fuel valve to shut down engine after landing. I stayed at flat pitch for 2min 30 sec and rolled off the throttle. This shut down the engine. The FADEC horn and Fail, Degraded, Manual and Restart Fault lights came on. I contacted DOO and GRB Mechanic to notify the company.</p> <p>Aircraft was powered on. FADEC DEGRADE/FADEC FAIL lights illuminated. Used FADEC software on laptop to view faults. Codes as follows: PLADflt. PLA12FIt, PLaitdFLT, HardFIt, RGRejFItREG. Removed ECU and replaced with serviceable ECU. No Faults upon runup. OPS Check on Manual was good. Aircraft returned to service.</p> | Closed                    |                    |
| <b>FIR: 202203<br/>Moderate<br/>Turbulence/High<br/>Winds</b> | <p><b>02/21/2022 Cherokee 6 901BD</b></p> <p>Wind Reporting approx. 13 kts prior to departing Homer. Phoned Bradley OPNS and they reported wind at 6 KTS. Experienced Moderate Turbulence enroute and the turbulence was increasing during approach. Visual on Windsock at Bradley Lake was 20KTS or Greater. Initiated Go-around approx. 100'AGL due to gusty winds and turbulence. Pilot returned aircraft to Homer</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Closed                    |                    |
| <b>FIR: 202204<br/>Weather Below<br/>IFR Minimums</b>         | <p><b>03/23/2022 Twin Otter N600MH</b></p> <p>After departing Pt. Thompson (PAAD) airstrip on 3/23 enroute to Deadhorse (PASC) the Deadhorse weather went below minimums with multiple aircraft in holding (weather was not forecasted to go below minimums). Crew diverted back to PAAD and held on the ground until weather conditions improved approximately 24 hours later. Crew returned to Deadhorse on 3/24 uneventfully.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                    |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Move to open action items | Responsible Person |
| <b>FIR 202205<br/>Torque Gauge Faults</b> | <p><b>03/29/2022 Bell 407 N319MH</b></p> <p>During takeoff, at 200 ft AGL out of PS2 with one passenger, 75 lbs. of cargo and 946 lbs. of fuel I noticed the torque was fluctuating between 12% and 36% with no power changes. I continued my climb up to 600 ft agl with a constant power setting of 95% NG. Once stabilized in level flight with an NG of 95% and an MGT of 618 degrees the torque continued to fluctuate between 36% and 70%. These fluctuations would occur every few minutes. The NG /MGT remained constant as well as all other indications. During fluctuations there were no changes in engine noise. These fluctuations lasted for approx. 20 minutes. After 20 minutes the torque stabilized and appeared to be indicating correctly for the remainder of the flight which was about 15 minutes back to PS4. After arrival at pump station 4 a normal shutdown was accomplished and a LCD BIT was conducted on all gauges with no issues showing up. This issue occurred on the last leg of the flight which was returning to PS4. Flight time at the time of the occurrence was at 2.1. Total flight time for the day was 2.8 hours, day.</p> <p>Replaced airframe transducer for torque metering system. Conducted leak check. Pilot conducted OPS check with no discrepancies noted. Aircraft returned to service.</p> | Closed                    |                    |
| <b>FIR 202206<br/>FADEC FAULTS</b>        | <p><b>03/29/2022 Bell 407 N309MH</b></p> <p>During Battery Assisted, First start of the day, the pilot did not verify that the battery switch was turned on before removing the battery cart. Engine stayed running after the battery was switched on. No warnings or cautions were displayed before takeoff. Upon landing and shutdown, the FADEC DEGRADE was illuminated. Mechanic connected laptop and evaluated errors and reset FADEC for the next flight. During subsequent flight, just before aircraft was landed, the START FAULT and FADEC DEGRADE Cautions illuminated. For shutdown, the grip throttle was not operational. Aircraft was shutdown according to checklist with throttle not operational. Mechanic was called.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Closed                    |                    |

| Notable A/C items since last CASS meeting          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                    |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                               | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Move to open action items | Responsible Person |
| <b>GOR 202201<br/>Loose B-Nut</b>                  | <p><b>01/14/2022 Bell 407 N407RH</b></p> <p>During daily airworthiness inspection, mechanic discovered oil residue on top of starter generator duct. With a black light, mechanic was able to trace the oil up to the #8 bearing oil line. He noticed the torque stripe was wet, so then checked the tightness of the B nut fitting and was able to get a slight turn (approx. 1\16-1\8"). Mechanic applied torque stripe (yellow) and cleaned up the remaining oil residue. Oil found in engine was not pooling.</p> <p>Fitting was tightened after inspecting for leak evidence. Tightened B Nut Fitting. No Defects. Added torque stripe. IAW: Rolls Royce M250-C47B MM.</p> | Closed                    |                    |
| <b>GOR 202202<br/>Drive Shaft Bolt Not Torqued</b> | <p><b>02/07/2022 Bell 407 N407PA</b></p> <p>While performing the 10-25 hour after install torque check of the T/R drive shaft disk pack hardware one bolt on the forward short shaft was found to have no torque. The bolt was snug but could be moved by hand. Torque seal was applied to that bolt.</p> <p>Torqued nut IAW BHT 407MM. Put a torque check of 10-25 hours for the forward short shaft hardware in the logbook and on the ladder form. Performed toolbox talk on how to apply torque seal to prevent this type of occurrence.</p>                                                                                                                                | Closed                    |                    |
| <b>GOR 202205<br/>Fixed Wing Hangar Rash</b>       | <p><b>02/20/2022 Cherokee 6, N901BL</b></p> <p>While ground handling the PA-32 out of the hangar in order to make room to take his helicopter out, the pilot damaged the L/H wing tip when he struck the hangar door. Hangar doors were not fully opened, pilot failed to stop and confirm clearance.</p> <p>"Hangar Rash" Incident. Placed protective tape over damaged area to prevent water intrusion. A permanent repair will be carried out during next scheduled no fly day.</p>                                                                                                                                                                                          | Closed                    |                    |

| Notable A/C items since last CASS meeting    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                         | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>GOR 202206<br/>Rejected Fuel Shipment</b> | <p><b>03/22/2022 Galbraith Lake Fuel Skid</b></p> <p>A fuel delivery by STS to Galbraith Lake/PS2 fuel skid was rejected on 03/22/2022. After inspection of sample taken from the STS fuel delivery trailer it failed the "Clear and Bright" portion of the inspection. Unknown particles were found in suspension of fuel sample by the PS4 mechanic as well as STS delivery driver. PS4 mechanic notified Maritime Helicopters fuel manager Jeremy Lister and Chief Inspector Isaac Mackey after inspection was complete.</p> <p>Investigation Ongoing</p> | Open                      | Isaac Mackey       |
| <b>GOR 202207<br/>Negative Safety</b>        | <p><b>03/22/2022 Bell 206L4, N314MH</b></p> <p>During preflight found negative safety wire on white main rotor blade hub static stop.</p> <p>Removed negative safety wire from white M/R hub blade static stop attachment bolts and installed positive safety wire. Attachment bolt torques were checked.</p>                                                                                                                                                                                                                                                | Closed                    |                    |
| <b>GOR 202208<br/>Missing Wiring</b>         | <p><b>03/25/2022 Bell 206L3, N306MH</b></p> <p>While troubleshooting a vibration issue it was discovered that the 3pin aux power receptacle was not installed in the hat rack of 306MH.</p> <p>Removed access panel and found aux power receptacle sitting just aft of the hat rack. Installed receptacle and inspected for any damage caused by it not being secured. No damage found.</p>                                                                                                                                                                  | Closed                    |                    |
| <b>GOR 202209<br/>Drained Battery</b>        | <p><b>03/23/2022 Bell 407, N407RH</b></p> <p>Mechanic left boost pump and battery on all night after performing a daily airworthiness check of the aircraft.</p> <p>Removed Dead battery on aircraft and replaced with serviceable battery from another B407</p> <p>Battery failed capacity check and had to be replaced. Cost= \$4,113.59</p>                                                                                                                                                                                                               | Closed                    |                    |

| Notable A/C items since last CASS meeting                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                    |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Move to open action items | Responsible Person |
| <b>GOR 202210</b><br><b>Bent Co-Pilot Crushable Panel</b> | <p><b>03/28/2022 Bell 407 N312MH</b></p> <p>During defueling operations, mechanics entered the co-pilot seat without the seats being installed. The "crushable" Seat Panel was bent, requiring replacement</p> <p>Panel was repaired IAW AC43.13. New panel was ordered, 6trh month backorder...cost= \$1,050.00. To be replaced at next annual inspection.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Closed                    |                    |
| <b>GOR 202211</b><br><b>Blade Fold Pin Left Installed</b> | <p><b>04/05/2022 BO105 N326MH</b></p> <p>Maintenance was unfolding blades for a MHI training/checkride flight. The logbook was left unsigned on the pilot seat until unfolding was complete. Mechanic was also training two new mechanics on the procedure. After the blades were unfolded, I (Pilot) went to check the completed unfold and sign off logbook. On the red blade the horizontal (T) folding pin was left installed. The Mechanic was informed of the mistake which was corrected before pilot signed off the logbook/daily writeup.</p> <p>Pilot informed mechanic that the horizontal pin was left installed on the red blade. Mechanic went back out to aircraft and removed the pin and placed in in the blade fold parts bag with the other folding pin. Incident was discussed with the Chief Inspector and the decision was made to add a write-up in the logbook required each time the blade is folded or unfolded. Mechanic involved in the incident gave a Toolbox Talk the next morning regarding this folding class. A BO105 Blade Folding class will be scheduled.</p> | Closed                    |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                          |
|----------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list |
| CAN 22-01 AD2021-23-13                                   |
| CAN 22-02 ASB407-21-124                                  |
| CAN 22-03 ASB412-21-187RA                                |
| CAN 22-04 AD2022-05-10                                   |
| CAN 22-05 AD2022-07-03                                   |
| CAN 22-06 AD2022-07-02                                   |
|                                                          |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Item                                                | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items |
| GOR 202204<br>Broken Hangar Windows                 | <p>Due to near continuous snow fall over the last two weeks a buildup of snow about three feet thick was stuck to the roof of the hangar. The snow usually sheds on it own but due to low temps that hasn't been happening this year. To force shedding we opened the attic door to allow heat into the area under the roof. The heat was successful, and the roof started slowly shedding but this created a large over hanging slab of snow, over the entryway to the hangar. The slab was about 3 feet thick and over hung the entrance by about 7 or 8 feet. The overhang being so far from the wall was putting an extreme torque load on the entryway roof causing it to bend and some of the supports to move slightly out of position. I decided to knock the slab down with a long 2x4. When the slab came down a piece of ice ended up rolling back off the snow pile and shattered a window in the survival suit room. Later another window was found broken in the changing room, however only the outer pane is broken on this window, and we do not know when this occurred.</p> <p>Snow was cleared from the entry way. A Styrofoam insert was cut to size, inserted, and sealed into the survival suit room window. No action was taken with the other window as the inner pane is still intact. Access to the outside of the windows is blocked by ice that is about 10 feet thick. As of this time only half the roof has shed so there would be considerable risk accessing the outside of the window due to no overhead protection. New windows will need to be installed at a time when outside of the windows can be accessed safely. We also repositioned the dumpster so that snow could fall away from the building easier.</p> | Open                      |

| AOG's for 2022                                        |
|-------------------------------------------------------|
| 1. N314MH – 01/20/22 – PS5 – Engine Overtemp          |
| 2. N308MH – 02/20/22 – GRB – ECU failure              |
| 3. N319MH – 03/29/22 – PS4 – Engine torque transducer |
| 4. N312MH – 04/14/22 – MTF – Transmission             |
| 5. N319MH – 04/16/22 – PS4 - HMU                      |
| 6.                                                    |

| AOG's for 2022 by Location |   |
|----------------------------|---|
| Deadhorse                  |   |
| PS4                        | 2 |
| Coldfoot                   |   |
| PS5                        | 1 |
| MTF                        | 1 |
| GRB                        | 1 |

| AOG's for 2022 by Location |  |
|----------------------------|--|
| Tonsina                    |  |
| VDZ                        |  |
| Kenia                      |  |
| HOM                        |  |
| Kodiak                     |  |
| Akutan                     |  |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Maintenance training                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>RR FADEC training in May for FAI and HOM. Dates TBD</p> <p>Bell 407 Component O/H School Aug 1-5</p> <p>Bell 206 component O/H School Dec 12-21</p> |

| Safety Management System    | Evidence                                             | Effectiveness/Discussion |
|-----------------------------|------------------------------------------------------|--------------------------|
| Emergency Response Plan-Old | ERP 26 current                                       | Jeremy/Dennis/Matt S     |
|                             | Fuel Quality Manual Revision/<br>Reissue in Progress |                          |
| ---New                      | Schedule Fairbanks ERP                               | Dennis/Dave              |

|                                                                          |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Quality/Station<br/>Checklists-Audit<br/>Program- OLD</p> <p>NEW—</p> | <p>Fire Extinguisher audit added to Fairbanks (by number and location)</p> <p>Modification of Audit Templates for locales</p> <p>Homer Audit</p> <p>Can't get our insurance for Hilcorp past ISNetworld</p> | <p>Yes, it can be done. Was trying this as a few sites (Akutan) have some issues with the one size fits all template. Went ahead and changed Akutan. Biggest issues, not bathrooms that we are responsible for, and no company vehicles.</p> <p>Start Aviation Audit in Homer for the week of 7 Feb. Dennis will travel to Homer for Audit and accomplish mgmt./annual audit for Homer that week. INDOC Class for new employees down there? Hasn't been accomplished in a while...</p> <p>INDOC completed for those available in Homer. Tom L scheduled inspection of the sprinkler system?</p> |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Safety Management System                   | Evidence                                                                                                                                                             | Effectiveness/Discussion                                                                                                                       |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Management of ChangeOLD</p> <p>NEW?</p> | <p>Annual review of Risk Management Manual due (Jones&amp;Buzga)</p> <p>No MoC for Human External Cargo, but will need a Risk Management Case added to RM Manual</p> | <p>Completed. Rev _ of Risk management manual issued</p> <p>Risk Case for Human External Cargo now in RM with a date of Reissue 02/01/2022</p> |

|                                  |                               |         |
|----------------------------------|-------------------------------|---------|
| Overall Safety Effectiveness-NEW | Missing topics for Q&S Letter | Discuss |
|----------------------------------|-------------------------------|---------|

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?) |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 07/21/22 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

4<sup>th</sup> Quarter

Jan. 2022

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 01/27/22 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                      |
|--------------------------|----------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                         |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                         |
| <b>FACILITATOR</b>       | Isaac Mackey                                                         |
| <b>ATTENDEES</b>         | Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, and Dennis Busch. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INITIATED BY | RESPONSIBLE PERSON         | DEADLINE | CLOSED |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------|----------|--------|
| <b>07/13/2020 N600MH</b><br><br>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.<br><br><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b><br><br>Pursuing remediation for system. More to follow<br><br><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b><br><br><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.<br><br><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b><br><br><b>04/29/21</b> Software update in progress<br><br><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b> | Isaac Mackey | Mark Hedlund<br>Scott Fell | TBD      | Open   |

| OLD OPEN ACTION ITEMS                                            | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <b>July 30<sup>th</sup> CASS Meeting left this an open item.</b> |              |                    |          |        |
| <b>Nov 11<sup>th</sup> CASS Meeting left this an open item.</b>  |              |                    |          |        |
| <b>Jan 27<sup>th</sup> CASS Meeting left this an open item.</b>  |              |                    |          |        |

| Notable A/C items since last CASS meeting                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>FIR: 202125<br/>Hot Start</b>                                                  | <p><b>07/15/21 N306MH B206L3</b></p> <p>Pilot /Homer hot started aircraft; exceeded 10 seconds transient.</p> <p>Overtemp insp. performed. Burner replaced due to nozzle wear. More adjustments completed, did multiple starts. Start sequence good per pilot</p> <p>306MH - 7/16/21 - Pilot Batt Cart 1st start really cool. Next start of acft Batt good. Acft flies then complains the next start was warm. Aborts 4th start. Completes 5th start with no issues. Aircraft started hot again. Asst6 Chief Pilot confirmed. Adjusted until starting correct. Restarted cold, Pilot started while Eng. hot, starts were confirmed by both to be good.</p>                                                                                                                                                                                   | Closed                    |                    |
| <b>202132<br/>Gauge shows exceedance.<br/>Inadvertent use of transient torque</b> | <p><b>11/08/21 N407RH Bell 407</b></p> <p>During flight to alternate LZ from initial attempt at Far Mountain, aircraft tried landing at Fox Relay. Visibility was approximately 2-3 miles and temperature was approx. -24C. While climbing up to Fox Relay summit and COMM site, aircraft windscreen started to ice. Pilot immediately turned the aircraft out of the icing and while turning, the Check Instrument light lit momentarily with an E in the Temperature gauge. Exceedance on gauge said 780 degrees upon shutdown (transient range). Aircraft was returned to base at MTF and maintenance was alerted to possible use of temp. transient. Write-up was placed in logbook.</p> <p>Engine computer downloaded engine record with no exceedances of temp, torque, nor NG. Aircraft was returned to service. Icing was light.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>202131</b><br><br><b>Torque gauge shows exceedance</b> | <b>11/23/21 N312MH Bell 407</b><br><br>Departed PS4 with 1 pax, 950# fuel, 100# Cargo, Gross wt: 4700#. Wx: Clear, Temp: -30F.<br><br>Approximately 3 minutes after departure, while in cruise at 100kts/70%tq, check instrument light came on. Torque gauge showed flashing bars and number readout was showing erratic indications with 'E' indication. All other instruments showed normal operation and there was no indication of abnormal conditions. Turned around to return to PS4. Enroute to PS4, Torque gauge indications returned to normal with continued 'E' displayed. After landing and informing mechanic, instrument check indicated an exceedance of 134.1%. Connected laptop, showed Torque exceedance of 134.1%, and an additional exceedance of 121.5% when the helicopter was not running. Mechanic cleared exceedance indication.<br><br>Mechanic was unable to find a cause. A maintenance flight was performed after inspecting the aircraft. Issue could not be duplicated. Turned over to maintenance for continuing diagnostics. | Closed                    |                    |
| <b>FIR: 202126</b><br><b>Pilot Transmit Switch INOP</b>   | <b>11/27/21 N407PA B407</b><br><br>Upon liftoff from parking, pilot tried to get clearance from tower. Pilot Transmit switch was inop. Landed and called maintenance. Passenger delay approx. one hour.<br><br>Cleaned pilot transmit switch w/Electra clean and checked security of transmit switch. Ops checked XMIT switch OKAY, aircraft returned to service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Closed                    |                    |
| <b>FIR: 202127</b><br><br><b>Generator overvoltage</b>    | <b>12/06/21 N600MH Twin Otter</b><br><br>Right Generator overvoltage shortly after takeoff, did not self-correct. Returned to Deadhorse to normal landing<br><br>(first of several for this issue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Closed                    |                    |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
| <b>FIR: 202128</b><br><br><b>Generator Faults</b> | <b>12/20/21 N600MH Twin Otter</b><br><br>At 1330LCL we taxied out for a flight from PASC to PMD with 1800 pounds of cargo and 1 pax when a Right Generator off CASS message was displayed. Conducted the QRH checklist for the failure. We were unsuccessful! in correcting the issue and returned to the hanger. Multiple engine runs were conducted with maintenance in an attempt to rectify the generator issue but were unsuccessful in rectifying the problem. At 1855 the flight was canceled.<br>Replaced Starter generator and reverse current relay, see LP 027227 and 027228 For complete details of maintenance performed | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>FIR 202129<br/>Generator Faults</b>    | <p><b>12/24/21 N600MH Twin Otter</b></p> <p>PASC - PAAD After starting engines, I was unable to select R gen on. Generator display would indicate over voltage or correct voltage with no amps. We terminated the flight after discussing with maintenance Mission included Cargo and planned PTEP. No PAX onboard.</p> <ol style="list-style-type: none"> <li>1. Replaced #2 gen control relay (K2), ops check unsatisfactory - after changing relay noticed RCR chattering</li> <li>2. Replaced #2 Reverse current relay - Gen #2 observed to be overvoltage and will not load share amperage. #1 gen at 27.5 Vdc and 101 amps, #2 Gen at 30.2 Vdc and zero amps.</li> <li>3. Started engines to parallel voltage regulators, #1 generator would not come online, and #2 generator would not come online. Both generators offline.</li> <li>4. Replaced bus tie relay with no effect</li> <li>5. Replaced r/h starter/generator with no effect.</li> </ol> <p>6: Performed engine run, Left generator function was normal, right generator was at 29 volts with no amps</p> <ol style="list-style-type: none"> <li>7. Swapped #1 and #2 RCR's - Gen 2 29 volts, producing what appeared to be normal (did not take value) amperage. Gen 1 produced 28.5 volts and no amperage. The problem followed the reverse current relays. Left the known good RCR in the #2 spot</li> <li>8. Replaced #1 reverse current relay both generators came online.</li> </ol> <p>I started looking at the overvolt as being caused by the RCR kicking offline and unloading the generator, rather than the system overvolting, and kicking the RCR offline. Once I started looking at that part of the diagram and shooting wires, I knew which components to begin looking at, and found the bad solder joint on the generator switch.</p> | Closed                    |                    |
|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>Heater low output</b>                  | <p><b>12/25/2021 N316MH Bell 206L4</b></p> <p>N316MH is a regular replacement for N314MH at Pump Station 5 which normally occurs in the winter months. N316MH does not have an Arctic Heater Kit installed. Customers continually complain of the lack of heat especially when in the rear seating area. These customers are briefed to wear their full arctic gear in the rear compartment so to stay warm. The Pilot has issues with the wind screens icing up due to the lack of heat coming from the defrost system. The occurrence of the wind screen icing up is really pronounced when the temperatures are in the -10 and above ranges. This issue has been brought up to maintenance leadership and operations numerous times over the past years.</p> <p>Jan 27<sup>th</sup> CASS meeting ordered arctic heater to be installed at next 12 month inspection.</p> | Closed                    |                    |

|                                                                               |
|-------------------------------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list                         |
| 09/20/21 – N600MH – MDR – CAS messages – Faulty soldering during installation |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
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| CANS, CAS MEMOS not listed on the notable A/C items list                      |
| CAN 21-01 – ASB412-20-181RA - Main rotor expandable blade bolt, inspection of |
| CAN 21-02 – ASB407-21-122 – Main rotor pitch link tube inspection             |
| CAN 21-03 – ASB206L-21-186RA – Main rotor pitch link tube inspection          |
| CAN 21-04 – AD2021-05-07 – inspect and replace starter gen wiring             |
| CAN 21-05 – AD2021-07-08 – Inspect mast flange area for cracks                |
| CAN 21-06 – AD2021-10-08 – 206 low fuel switch                                |
| CAN 21-07 – AD2021-03-15 – 119 tail rotor pitch change control mechanism      |
| CAN 21-08 – AD2021-10-14 – 105 TT strap retirement tracking                   |
| CAN 21-09 – AD2021-10-21 – 105 swashplate bellows                             |
| CAN 21-10 – AD2021-14-14 – 119 electrical                                     |
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| CAN 21-12 – AD2021-13-14 – Rescue hoist                                       |
| CAN 21-13 – ASB412-21-185 – tail rotor driveshaft assembly                    |
| CAN 21-14 – AD2021-15-06 – tail rotor disk pack                               |
| CAN 21-15 – AD2021-16-06 – 119 TRGB                                           |
| CAN 21-16 – AD2021-19-01 – Comfort clips                                      |
| CAN 21-17 – ASB407-21-125 – CPT, intro of                                     |
| CAN 21-18 – ASB407-21-126 – Pilot cyclic control stick balance                |
| CAN 21-19 – AD2021-20-18 – Improperly installed passenger cabin windows       |
| CAN 21-20 – AD2021-21-03 – damaged connecting link                            |
| CAN 21-21 – AD2021-22-05 – collective control tube                            |

|                                                                       |
|-----------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list              |
| CAN 21-22 – AD2021-24-15 – Air comm air conditioning system           |
| CAN 21-23 – AD2021-26-08 – Tail rotor drive hardware, replacement of. |
|                                                                       |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Item                                                | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items |
| DEF System                                          | <p><b>10/17/21 2021 Duramax work truck 14000 miles</b></p> <p>While driving to VDZ to support the N407PA AOG the truck began do go into limp mode. Speed was reduced to 4MPH. the truck was swapped with the work truck in GRB and the maintenance crew continued on the VDZ to complete the overtorque inspection.</p> <p><b>10/20/21</b> the truck was towed to Fairbanks from GRB under warranty. During the towing process the rear window was broken out. Fairbanks Lithia is working to replace the DEF tank and window under warranty.</p> <p><b>11/09/21.</b> Fairbanks Lithia ordered the DEF tank. Estimated three weeks out.</p> <p><b>12/10/21</b> Received truck back from Lithia. No defects noted.</p> <p><b>Jan 27<sup>th</sup> CASS closed this item.</b></p> | Closed                    |

| AOG's for 2021                                                |
|---------------------------------------------------------------|
| 1. N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak           |
| 2. N314MH – 01/20/21 – PS5 – Transmission temp                |
| 3. N312MH – 01/27/21 – MTF – Transmission pressure            |
| 4. N600MH – 02/01/21 – Deadhorse – Fuel nozzle leak           |
| 5. N308MH – 02/07/21 – PS4 – Transmission pressure            |
| 6. N600MH – 03/01/21 – Deadhorse – Deice timer                |
| 7. N600MH – 04/23/21 – Deadhorse – Avionics start battery     |
| 8. N306MH – 07/19/21 – Homer – flight controls binding        |
| 9. N320MH – 07/19/21 – Deadhorse – engine oil pressure switch |
| 10. N320MH – 08/18/21 – Fairbanks – VG failed                 |
| 11. N320MH – 08/28/21 – Fairbanks – Engine oil leak           |

| AOG's for 2021                                                |  |
|---------------------------------------------------------------|--|
| 12. N320MH – 09/09/21 – Deadhorse – VG failed in flight       |  |
| 13. N308MH – 09/15/21 – Fairbanks – Pitch link bearing        |  |
| 14. N316MH – 09/20/21 – Coldfoot – Engine gearbox replacement |  |
| 15. N407PA – 10/16/21 – Valdez – Engine overtorque            |  |
| 16. N600MH – 12-21-21 – Deadhorse – Gen coming offline        |  |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| Deadhorse                  | 7 |
| PS4                        | 1 |
| Coldfoot                   | 1 |
| PS5                        | 1 |
| MTF                        | 4 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| Kenia                      |   |
| HOM                        | 1 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS |  | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--|--------------|--------------------|----------|--------|
|                       |  |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System    | Evidence                                                                                                                                                                                 | Effectiveness/Discussion                                                                                                                                                                                                                 |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old | <p>ERP 26 current</p> <p>Homer Completed Fire Drill in DEC. Need to add to iAuditor (Tom)</p> <p>Discussed new version Conoco Phillips to incorporate CP differences and restructure</p> | <p><b>In progress/Discussion?</b><br/> Conoco items tabled until contract develops.<br/> (Update: tabled for the season which did not develop)</p> <p>New Bid in progress for summer 2022...no addressing all CP per-audit documents</p> |
| ---New                      | Fuel Quality manual Revision/ Reissue in Progress                                                                                                                                        | Jeremy/Dennis                                                                                                                                                                                                                            |

| Safety Management System                                    | Evidence                                                                                                                                                                                                                                                                                                                                                                                       | Effectiveness/Discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Station Checklists-<br/>AuditProgram- OLD</p> <p>New</p> | <p>COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions.</p> <p>Audits?</p> <p>Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items</p> <p>Fire Extinguisher audit added to Fairbanks (by number and location)</p> <p>Small Changes made to Fairbanks's audit template to accommodate differences.</p> | <p>Pump Four, GRB, Valdez, and Fairbanks, Kodiak &amp; Valdez mgmt. audits complete for 2021. OSHA visited GRB and thought everything looked great. Homer is only out-standing mgmt. audit (post season-Dennis &amp; Isaac?)<br/>(Homer to be looked at by Dennis the week of the McGriff/Star Aviation audit 7 Feb)</p> <p>Yes, it can be done. Was trying this as a few sites (Akutan) have some issues with the one size fits all template. Discussion?</p> <p>Start Aviation Audit in Homer for the week of 7 Feb. Dennis will travel to Homer for Audit and accomplish mgmt./annual audit for Homer that week. INDOC Class for new employees down there? Hasn't been accomplished in a while</p> |

| Safety Management System                          | Evidence                                                                                                                                                                                                                                                               | Effectiveness/Discussion                                                                                                                                                           |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Management of Change</p> <p>OLD</p> <p>NEW</p> | <p>Red Cross training plan for fall.</p> <p>Online academics with in-person practical skills?</p> <p>Annual review of Risk Management Manual due (Jones&amp;Buzga)</p> <p>No MoC for Human External Cargo, but will need a Risk Management Case added to RM Manual</p> | <p>First Aid/CPR/AED Training completed with Blended learning system, only requiring 1 hour in classroom and 2-4 hours of onlinetime per student...</p> <p>Summary, it worked.</p> |
| Overall Safety Effectiveness-NEW                  | <p>Driver's Safety!</p> <p>Toolbox talks in Fairbanks more regular and accountable this quarter in Fairbanks.</p> <p>General Laziness in Filling out GORs/FIRs...aircraft history, etc</p>                                                                             | Discuss for Homer?                                                                                                                                                                 |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?) |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 04/21/22 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

4<sup>th</sup> Quarter

Jan. 2022

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 01/27/22 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                      |
|--------------------------|----------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                         |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                         |
| <b>FACILITATOR</b>       | Isaac Mackey                                                         |
| <b>ATTENDEES</b>         | Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, and Dennis Busch. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INITIATED BY | RESPONSIBLE PERSON         | DEADLINE | CLOSED |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------|----------|--------|
| <b>07/13/2020 N600MH</b><br><br>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.<br><br><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b><br><br>Pursuing remediation for system. More to follow<br><br><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b><br><br><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.<br><br><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b><br><br><b>04/29/21</b> Software update in progress<br><br><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b> | Isaac Mackey | Mark Hedlund<br>Scott Fell | TBD      | Open   |

| OLD OPEN ACTION ITEMS                                            | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <b>July 30<sup>th</sup> CASS Meeting left this an open item.</b> |              |                    |          |        |
| <b>Nov 11<sup>th</sup> CASS Meeting left this an open item.</b>  |              |                    |          |        |
| <b>Jan 27<sup>th</sup> CASS Meeting left this an open item.</b>  |              |                    |          |        |

| Notable A/C items since last CASS meeting                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                          | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>FIR: 202125<br/>Hot Start</b>                                              | <p><b>07/15/21 N306MH B206L3</b></p> <p>Pilot /Homer hot started aircraft; exceeded 10 seconds transient.</p> <p>Overtemp insp. performed. Burner replaced due to nozzle wear. More adjustments completed, did multiple starts. Start sequence good per pilot</p> <p>306MH - 7/16/21 - Pilot Batt Cart 1st start really cool. Next start of acft Batt good. Acft flies then complains the next start was warm. Aborts 4th start. Completes 5th start with no issues. Aircraft started hot again. Asst6 Chief Pilot confirmed. Adjusted until starting correct. Restarted cold, Pilot started while Eng. hot, starts were confirmed by both to be good.</p>                                                                                                                                                                                   | Closed                    |                    |
| <b>202132<br/>Gauge shows exceedance. Inadvertent use of transient torque</b> | <p><b>11/08/21 N407RH Bell 407</b></p> <p>During flight to alternate LZ from initial attempt at Far Mountain, aircraft tried landing at Fox Relay. Visibility was approximately 2-3 miles and temperature was approx. -24C. While climbing up to Fox Relay summit and COMM site, aircraft windscreen started to ice. Pilot immediately turned the aircraft out of the icing and while turning, the Check Instrument light lit momentarily with an E in the Temperature gauge. Exceedance on gauge said 780 degrees upon shutdown (transient range). Aircraft was returned to base at MTF and maintenance was alerted to possible use of temp. transient. Write-up was placed in logbook.</p> <p>Engine computer downloaded engine record with no exceedances of temp, torque, nor NG. Aircraft was returned to service. Icing was light.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>202131</b><br><br><b>Torque gauge shows exceedance</b> | <b>11/23/21 N312MH Bell 407</b><br><br>Departed PS4 with 1 pax, 950# fuel, 100# Cargo, Gross wt: 4700#. Wx: Clear, Temp: -30F.<br><br>Approximately 3 minutes after departure, while in cruise at 100kts/70%tq, check instrument light came on. Torque gauge showed flashing bars and number readout was showing erratic indications with 'E' indication. All other instruments showed normal operation and there was no indication of abnormal conditions. Turned around to return to PS4. Enroute to PS4, Torque gauge indications returned to normal with continued 'E' displayed. After landing and informing mechanic, instrument check indicated an exceedance of 134.1%. Connected laptop, showed Torque exceedance of 134.1%, and an additional exceedance of 121.5% when the helicopter was not running. Mechanic cleared exceedance indication.<br><br>Mechanic was unable to find a cause. A maintenance flight was performed after inspecting the aircraft. Issue could not be duplicated. Turned over to maintenance for continuing diagnostics. | Closed                    |                    |
| <b>FIR: 202126</b><br><b>Pilot Transmit Switch INOP</b>   | <b>11/27/21 N407PA B407</b><br><br>Upon liftoff from parking, pilot tried to get clearance from tower. Pilot Transmit switch was inop. Landed and called maintenance. Passenger delay approx. one hour.<br><br>Cleaned pilot transmit switch w/Electra clean and checked security of transmit switch. Ops checked XMIT switch OKAY, aircraft returned to service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Closed                    |                    |
| <b>FIR: 202127</b><br><br><b>Generator overvoltage</b>    | <b>12/06/21 N600MH Twin Otter</b><br><br>Right Generator overvoltage shortly after takeoff, did not self-correct. Returned to Deadhorse to normal landing<br><br>(first of several for this issue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Closed                    |                    |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
| <b>FIR: 202128</b><br><br><b>Generator Faults</b> | <b>12/20/21 N600MH Twin Otter</b><br><br>At 1330LCL we taxied out for a flight from PASC to PMD with 1800 pounds of cargo and 1 pax when a Right Generator off CASS message was displayed. Conducted the QRH checklist for the failure. We were unsuccessful! in correcting the issue and returned to the hanger. Multiple engine runs were conducted with maintenance in an attempt to rectify the generator issue but were unsuccessful in rectifying the problem. At 1855 the flight was canceled.<br>Replaced Starter generator and reverse current relay, see LP 027227 and 027228 For complete details of maintenance performed | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
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| <b>FIR 202129<br/>Generator Faults</b>    | <p><b>12/24/21 N600MH Twin Otter</b></p> <p>PASC - PAAD After starting engines, I was unable to select R gen on. Generator display would indicate over voltage or correct voltage with no amps. We terminated the flight after discussing with maintenance Mission included Cargo and planned PTEP. No PAX onboard.</p> <ol style="list-style-type: none"> <li>1. Replaced #2 gen control relay (K2), ops check unsatisfactory - after changing relay noticed RCR chattering</li> <li>2. Replaced #2 Reverse current relay - Gen #2 observed to be overvoltage and will not load share amperage. #1 gen at 27.5 Vdc and 101 amps, #2 Gen at 30.2 Vdc and zero amps.</li> <li>3. Started engines to parallel voltage regulators, #1 generator would not come online, and #2 generator would not come online. Both generators offline.</li> <li>4. Replaced bus tie relay with no effect</li> <li>5. Replaced r/h starter/generator with no effect.</li> </ol> <p>6: Performed engine run, Left generator function was normal, right generator was at 29 volts with no amps</p> <ol style="list-style-type: none"> <li>7. Swapped #1 and #2 RCR's - Gen 2 29 volts, producing what appeared to be normal (did not take value) amperage. Gen 1 produced 28.5 volts and no amperage. The problem followed the reverse current relays. Left the known good RCR in the #2 spot</li> <li>8. Replaced #1 reverse current relay both generators came online.</li> </ol> <p>I started looking at the overvolt as being caused by the RCR kicking offline and unloading the generator, rather than the system overvolting, and kicking the RCR offline. Once I started looking at that part of the diagram and shooting wires, I knew which components to begin looking at, and found the bad solder joint on the generator switch.</p> | Closed                    |                    |
|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
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| <b>Heater low output</b>                  | <p><b>12/25/2021 N316MH Bell 206L4</b></p> <p>N316MH is a regular replacement for N314MH at Pump Station 5 which normally occurs in the winter months. N316MH does not have an Arctic Heater Kit installed. Customers continually complain of the lack of heat especially when in the rear seating area. These customers are briefed to wear their full arctic gear in the rear compartment so to stay warm. The Pilot has issues with the wind screens icing up due to the lack of heat coming from the defrost system. The occurrence of the wind screen icing up is really pronounced when the temperatures are in the -10 and above ranges. This issue has been brought up to maintenance leadership and operations numerous times over the past years.</p> <p>Jan 27<sup>th</sup> CASS meeting ordered arctic heater to be installed at next 12 month inspection.</p> | Closed                    |                    |

|                                                                               |
|-------------------------------------------------------------------------------|
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| 09/20/21 – N600MH – MDR – CAS messages – Faulty soldering during installation |

|                                                                   |
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|                                                                   |

|                                                                               |
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| CAN 21-03 – ASB206L-21-186RA – Main rotor pitch link tube inspection          |
| CAN 21-04 – AD2021-05-07 – inspect and replace starter gen wiring             |
| CAN 21-05 – AD2021-07-08 – Inspect mast flange area for cracks                |
| CAN 21-06 – AD2021-10-08 – 206 low fuel switch                                |
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| CAN 21-08 – AD2021-10-14 – 105 TT strap retirement tracking                   |
| CAN 21-09 – AD2021-10-21 – 105 swashplate bellows                             |
| CAN 21-10 – AD2021-14-14 – 119 electrical                                     |
| CAN 21-11 – ASB407-21-123 – 407 300hr tailboom inspection                     |
| CAN 21-12 – AD2021-13-14 – Rescue hoist                                       |
| CAN 21-13 – ASB412-21-185 – tail rotor driveshaft assembly                    |
| CAN 21-14 – AD2021-15-06 – tail rotor disk pack                               |
| CAN 21-15 – AD2021-16-06 – 119 TRGB                                           |
| CAN 21-16 – AD2021-19-01 – Comfort clips                                      |
| CAN 21-17 – ASB407-21-125 – CPT, intro of                                     |
| CAN 21-18 – ASB407-21-126 – Pilot cyclic control stick balance                |
| CAN 21-19 – AD2021-20-18 – Improperly installed passenger cabin windows       |
| CAN 21-20 – AD2021-21-03 – damaged connecting link                            |
| CAN 21-21 – AD2021-22-05 – collective control tube                            |

|                                                                       |
|-----------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list              |
| CAN 21-22 – AD2021-24-15 – Air comm air conditioning system           |
| CAN 21-23 – AD2021-26-08 – Tail rotor drive hardware, replacement of. |
|                                                                       |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Item                                                | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items |
| DEF System                                          | <p><b>10/17/21 2021 Duramax work truck 14000 miles</b></p> <p>While driving to VDZ to support the N407PA AOG the truck began do go into limp mode. Speed was reduced to 4MPH. the truck was swapped with the work truck in GRB and the maintenance crew continued on the VDZ to complete the overtorque inspection.</p> <p><b>10/20/21</b> the truck was towed to Fairbanks from GRB under warranty. During the towing process the rear window was broken out. Fairbanks Lithia is working to replace the DEF tank and window under warranty.</p> <p><b>11/09/21.</b> Fairbanks Lithia ordered the DEF tank. Estimated three weeks out.</p> <p><b>12/10/21</b> Received truck back from Lithia. No defects noted.</p> <p><b>Jan 27<sup>th</sup> CASS closed this item.</b></p> | Closed                    |

| AOG's for 2021                                                |
|---------------------------------------------------------------|
| 1. N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak           |
| 2. N314MH – 01/20/21 – PS5 – Transmission temp                |
| 3. N312MH – 01/27/21 – MTF – Transmission pressure            |
| 4. N600MH – 02/01/21 – Deadhorse – Fuel nozzle leak           |
| 5. N308MH – 02/07/21 – PS4 – Transmission pressure            |
| 6. N600MH – 03/01/21 – Deadhorse – Deice timer                |
| 7. N600MH – 04/23/21 – Deadhorse – Avionics start battery     |
| 8. N306MH – 07/19/21 – Homer – flight controls binding        |
| 9. N320MH – 07/19/21 – Deadhorse – engine oil pressure switch |
| 10. N320MH – 08/18/21 – Fairbanks – VG failed                 |
| 11. N320MH – 08/28/21 – Fairbanks – Engine oil leak           |

| AOG's for 2021                                                |  |
|---------------------------------------------------------------|--|
| 12. N320MH – 09/09/21 – Deadhorse – VG failed in flight       |  |
| 13. N308MH – 09/15/21 – Fairbanks – Pitch link bearing        |  |
| 14. N316MH – 09/20/21 – Coldfoot – Engine gearbox replacement |  |
| 15. N407PA – 10/16/21 – Valdez – Engine overtorque            |  |
| 16. N600MH – 12-21-21 – Deadhorse – Gen coming offline        |  |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| Deadhorse                  | 7 |
| PS4                        | 1 |
| Coldfoot                   | 1 |
| PS5                        | 1 |
| MTF                        | 4 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| Kenia                      |   |
| HOM                        | 1 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS |  | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--|--------------|--------------------|----------|--------|
|                       |  |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System    | Evidence                                                                                                                                                                                 | Effectiveness/Discussion                                                                                                                                                                                                                 |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old | <p>ERP 26 current</p> <p>Homer Completed Fire Drill in DEC. Need to add to iAuditor (Tom)</p> <p>Discussed new version Conoco Phillips to incorporate CP differences and restructure</p> | <p><b>In progress/Discussion?</b><br/> Conoco items tabled until contract develops.<br/> (Update: tabled for the season which did not develop)</p> <p>New Bid in progress for summer 2022...no addressing all CP per-audit documents</p> |
| ---New                      | Fuel Quality manual Revision/ Reissue in Progress                                                                                                                                        | Jeremy/Dennis                                                                                                                                                                                                                            |

| Safety Management System                 | Evidence                                                                                                                                                                                                                                                                                                   | Effectiveness/Discussion                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Station Checklists-<br>AuditProgram- OLD | <p>COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions.</p> <p>Audits?</p> <p>Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items</p> <p>Fire Extinguisher audit added to Fairbanks (by number and location)</p> | <p>Pump Four, GRB, Valdez, and Fairbanks, Kodiak &amp; Valdez mgmt. audits complete for 2021. OSHA visited GRB and thought everything looked great. Homer is only out-standing mgmt. audit (post season-Dennis &amp; Isaac?)<br/>(Homer to be looked at by Dennis the week of the McGriff/Star Aviation audit 7 Feb)</p>                                                     |
| New                                      | <p>Small Changes made to Fairbanks's audit template to accommodate differences.</p>                                                                                                                                                                                                                        | <p>Yes, it can be done. Was trying this as a few sites (Akutan) have some issues with the one size fits all template. Discussion?</p> <p>Start Aviation Audit in Homer for the week of 7 Feb. Dennis will travel to Homer for Audit and accomplish mgmt./annual audit for Homer that week. INDOC Class for new employees down there? Hasn't been accomplished in a while</p> |

| Safety Management System                          | Evidence                                                                                                                                                                                                                                                               | Effectiveness/Discussion                                                                                                                                                           |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Management of Change</p> <p>OLD</p> <p>NEW</p> | <p>Red Cross training plan for fall.</p> <p>Online academics with in-person practical skills?</p> <p>Annual review of Risk Management Manual due (Jones&amp;Buzga)</p> <p>No MoC for Human External Cargo, but will need a Risk Management Case added to RM Manual</p> | <p>First Aid/CPR/AED Training completed with Blended learning system, only requiring 1 hour in classroom and 2-4 hours of onlinetime per student...</p> <p>Summary, it worked.</p> |
| Overall Safety Effectiveness-NEW                  | <p>Driver's Safety!</p> <p>Toolbox talks in Fairbanks more regular and accountable this quarter in Fairbanks.</p> <p>General Laziness in Filling out GORs/FIRs...aircraft history, etc</p>                                                                             | Discuss for Homer?                                                                                                                                                                 |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?)</p> |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 04/21/22 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

3<sup>rd</sup> Quarter

Nov. 2021

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 11/11/21 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                                    |
|--------------------------|------------------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                                       |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                                       |
| <b>FACILITATOR</b>       | Isaac Mackey                                                                       |
| <b>ATTENDEES</b>         | Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, Matt Stevens, and Dennis Busch. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------|
| <b>07/13/2020 N600MH</b><br><br>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.<br><br><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b><br><br>Pursuing remediation for system. More to follow<br><br><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b><br><br><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.<br><br><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b><br><br><b>04/29/21</b> Software update in progress<br><br><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b> | Isaac Mackey | Mark Hedlund       | TBD      | Open   |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <b>July 30<sup>th</sup> CASS Meeting left this an open item.</b><br><br><b>Nov 11<sup>th</sup> CASS Meeting left this an open item.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |                    |          |                 |
| <b>Compressor cracked 12/17/20 Bell 407 N312MH</b><br><br><b>01/21/21</b> Still missing FIR from Dennis<br><br><b>Jan 21<sup>st</sup> CASS moved this to an open item.</b><br><br><b>04/29/21</b> Still missing FIR from Dennis<br><br><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b><br><br><b>12/18/21</b> Aircraft ferried from PS4 to Fairbanks for low power. Compressor inspected and found to have large crack in compressor scroll. Removed compressor and installed serviceable. Aircraft returned to service.<br><br><b>02/01/21</b> Compressor inspected at Airborne Engines. Compressor scroll replaced. Total cost for compressor inspection was \$38,531.78<br><br><b>No GOR or FIR</b><br><br><b>July 30<sup>th</sup> CASS Meeting closed this item.</b> | Isaac Mackey | Dennis Busch       | 07/30/21 | Closed 07/30/21 |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                    |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Move to open action items | Responsible Person |
| <b>Caribou on runway</b>                  | <b>07/05/21 N600MH</b><br><br>Summary Notes or Preventable measures to prevent this from occurring again.<br><br>Flight was from PASC-PMD Weather was CAVU, the winds were approximately 070 at 17 knots. First Officer Austin Bowen was at the controls.<br>Exxon tower control was being conducted by Dave in training under Supervision of Neil Fox.<br>We conducted a visual approach to runway 5 while on an IFR flight plan. We reported 10 mile final for runway 05 at PMD. We were advised that Caribou were spotted 500 yards from the runway, but the runway was clear and to land at pilots' discretion. We acknowledged both the caribou position and to land at pilots' discretion.<br>At approximately 200 feet we were advised by the student controller that there was a caribou south of the runway. Both Austin and I interpreted that to mean the caribou was south of the runway | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                    |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Move to open action items | Responsible Person |
|                                           | <p>and in addition we could not see any animals on the runway. When Austin began the approach procedure Neil Fox (the instructor) then got on the radio and said Caribou midfield on the runway. Austin called the Caribou insight When I saw it We estimated that it was well up wind of midfield. That was approximately a little less than a 1/2 mile from our position. He said he was continuing since he was starting the flair procedure and that the caribou was so far down the runway. I agreed with him continuing to land due to transitioning below 80 knots in the flair and the safe distance r9tnaining between the caribou and our position. We were also below VMCA at that point. Our ground speed was approximately 65 crossing the threshold.</p> <p>Austin made a smooth touchdown at the 500-foot point and slowed to 10 knots when I took the airplane and brought it to a stop. We still maintained an excess of 500 yards between the Caribou and the airplane. We held our position until the caribou was hazed from the runway and then continued to parking.</p> <p>After offloading the airplane, I went up to the tower to talk with Nell and Dave about the Caribou. They said they did the standard visual sweep 2 times and did not see the animal. An off-duty safety ramp person that was waiting to fly out saw the animal on the runway and notified the tower when we were short final. The Caribou was almost the exact color of the gravel and was difficult to see as he may have been laying down and was missed during the tower visual sweep.</p> <p>I suggested that In the future they give dear and concise communication that there is an animal on the runway and that advising a go around would be prudent I said an example would be "Caribou on the runway go around". I said the pilot still has the authority to GA or not go around, but the earlier he gets the advice to go around during the final stages of landing the more options he has. I also told him i really doesn't, matter where he is located at that point and only causes confusion to where it actually was as occurred in our case. We all agreed that safety margins were maintained in this particular case, but it could have been handled much better with dear communication and a more though visual sweep of the runway.</p> |                           |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>Transmission chip light</b>            | <p><b>07/21/21 N320MH Prospect Creek</b></p> <p>Ferrying aircraft and leaving Prospect Creek airport, aircraft displayed XMSN Chip light. Landed back at Prospect Creek. No delay to customer due to redeploy/ferry.</p> <p>Removed both xmsn chip detectors. Both were clean. Cleaned and reinstalled IAW AW119 MKII MM, ran 15-minute penalty ground run and light cleared. Aircraft returned to service.</p>                                                                                                                                                                                                                                               | Closed                    |                    |
| <b>Transmission chip light</b>            | <p><b>07/17/21 N407RH Happy Valley</b></p> <p>On short final to a gravel bar near Franklin Bluff, the XMSN Chip light illuminated. Completed landing, shutdown, and passengers unloaded. Removed the transmission chip detectors and wiped clean, no metal particles or chips noted. Reinstalled chip detectors ran aircraft on the ground for 20 minutes. XMSN CHIP did not illuminate. Checked for leaks, none found. Returned to Happy Valley to continue the day's work. Approximate loss of time to the customer was 2 1/2 hours.</p> <p>PS4 mechanic drive up to Happy Valley and inspected the aircraft. No defects, aircraft returned to service.</p> | Closed                    |                    |
| <b>Flight Controls</b>                    | <p><b>07/19/21 N306MH Homer</b></p> <p>Pilot reported "pushback" on right cyclic input. Upon inspection of R/H servo, it was found that the wear sleeve on the idler arm had de-bonded and was contacting the sleeve, causing damage. Sleeve and idler were replaced by 0800 7/20/20. another aircraft was available for the 7/19 flight so there was no delay to customer</p>                                                                                                                                                                                                                                                                                | Closed                    |                    |
| <b>Bad Fuel Sample</b>                    | <p><b>07/20/21 N312MH Fairbanks Hangar</b></p> <p>While sampling the forward and aft fuel cells, the pilot noticed excessive sediment after completion. The last sample on record in the cabinet was from 7/12/21. The aircraft had flown approximately 12 hours since the last sample.</p> <p>Fairbanks Lead Mechanic conducted toolbox talk on fuel sampling. Stress fuel samples in quarterly Quality &amp; Safety Letter.</p>                                                                                                                                                                                                                             | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                    |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Move to open action items | Responsible Person |
| <b>Numerous CAS Messages</b>              | <p><b>07/22/21 N600MH PAAD/Deadhorse</b></p> <p>Today 07/22/21 approximately 9:20 am inflight while on the RNAV RWY 5 approach into PAAD we experienced a temporary loss of vertical and lateral coarse guidance followed by a cascade of CAS messages some of which were AGM 2 Fail, APM Fail, MAU B Fail, Check Copilot PFD, ASCB Fail, CMS 2 Fail, AP 1 Fail, YD, Fail, TCAS Fail, Monitor Fail, Unable FMS-GPS Mon also effected was the FMS data bases, the pilots PFD, the copilots PFD, the pilots SV and the IMAP. Shortly after the failure began the system slowly returned to normal.</p> <p>After landing in PAAD and on roll out another failure took place just like the on listed above and continued until shut down on the ramp. After talking with maintenance, a normal aircraft power up was done, 3-4 minutes into the power up the system failed as previously listed above.</p> <p>After troubleshooting, found poor solder splice between the #2 Network Interface Card, and the Aircraft Standard Communication Bus. Repaired connection with new solder splice.</p> <p>After hours of power on operational check, the aircraft was released for an operational check flight. Operational check flight was satisfactory to the flight crew, with no defects noted in flight.</p> <p>Resulted in an MDR.</p> | Closed                    |                    |
| <b>ENGINE FOD</b>                         | <p><b>08/05/21 N316MH Bettles/Ambler Road</b></p> <p>During Post flight, found turbine shims on engine deck. Further inspection found 12 o'clock turbine top gearbox stud sheared off.</p> <p>Removed turbine. Removed 12 o'clock gearbox stud &amp; replaced with serviceable. Reinstalled turbine and returned aircraft to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| <b>Access Door Damage</b>                 | <p><b>08/19/21 N320MH Deadhorse/Atigun</b></p> <p>Pilot found access door open at first couple of sites...mechanic 100MPH taped the door shut. (Abbreviated by Q&amp;S Section).</p> <p>We have comments from the mechanic who did a diligent job of diagnosing problem and making the temporary fix of the access door to allow flights to continue. But there was some continuity loss between the pilot and mechanic on when this was found and when the temporary fix happened</p> <p>Also noted that the 100-mph tape removed some paint off the access door.</p> <p>09/20/21 Replaced worn door latches and repainted cowl door. No defects noted.</p> | Closed                    |                    |
| <b>Rotor Bonding Strap</b>                | <p><b>09/02/21 N320MH Deadhorse</b></p> <p>Upon post-flight inspection, discovered a main rotor bonding strap had become unsecured. The safety wire was broken, and the bolt had backed out and was still sitting in the strap end-loop. Maintenance was immediately notified, and a logbook entry made. There was no delay to customer as this was the repositioning flight back to MTF. Maintenance reinstalled and torqued the bolt. Aircraft returned to service.</p>                                                                                                                                                                                    | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                    |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Move to open action items | Responsible Person |
| <b>Lower Rudder Fairing Damage</b>        | <p><b>09/06/21 N600MH PASC Hangar</b></p> <p>After Cleaning the floor for the EMAS inspection/review, the aircraft was moved back into the hangar. While moving the aircraft, the tail contacted the passenger stairs. This resulted in a small dent to a fairing.</p> <p>Log Page 027145 Item# 2</p> <p>Discrepancy: Ground handling damage occurred on lower rudder fairing.</p> <p>Corrective Action: Inspected damage &amp; found negligible. No repair required. All tools accounted for. AFTT: 464.1</p> <p>All personnel were briefed on proper aircraft towing and spotting procedures outlined in the SOPs which includes ensuring all equipment is properly stowed before towing the aircraft. This will be a briefing hot topic for additional crew changes. The damage was very minor with no impact to airworthiness or revenue flights.</p> | Closed                    |                    |
| <b>Pitch Horn Loose</b>                   | <p><b>09/08/21 N316MH Coldfoot/Ambler Road</b></p> <p>During Post Flight, mechanic found pitch horn hardware loose and not torque striped.</p> <p>Removed all six sets individually...inspecting bolts and bores. Cleaned and reinstalled with six new nuts. Torqued and torque striped according to Maritime GMM</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Closed                    |                    |
| <b>Upper PC Link Bearings worn</b>        | <p><b>09/15/21 N308MH Security</b></p> <p>While performing airworthiness check, mechanic found black colored grease at bearing locations, then shook PC Link by hand and saw play in bearings at the blue, green, and orange bearings</p> <p>Measured bearings and found blue and orange upper PC Link Bearings out of limits. Removed and replaced orange bearing. Blue bearing was placed on order</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Closed                    |                    |
| <b>Aircraft Fuel leak</b>                 | <p><b>09/22/21 N311MH Coldfoot/Ambler Road</b></p> <p>During Preflight, a large amount of fuel was found draing from weep holes between forward tanks</p> <p>Mechanic replaced the O-Rings on Left hand tank ejector line.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Closed                    |                    |

| Notable A/C items since last CASS meeting        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                    |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                             | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Move to open action items | Responsible Person |
| <b>Weather Return/Weather below IFR Minimums</b> | <p><b>10/8/2021/1030 N600MH</b></p> <p>Today 10/08/21 approximately 10:30 after departing PAAD in route to PASC the weather dropped below landing minimums. Center informed us the Alaska jet was holding over MAJEF at 4000 feet and wanted to know our intentions. After assessing our options, we agreed the chances of extended delays over PASC would result in us exceeding our bingo fuel and cost us our alternate landing airport. I decided to return to Point Thompson with the passengers and wait for better weather. Resulted in a 2hr delay.</p>                                                                                                                                                                                                          | Closed                    |                    |
| <b>No Altitude Reporting</b>                     | <p><b>10/10/21 N600MH Deadhorse</b></p> <p>Today 10/10/21 approximately 16:30 pm after engine startup a CAS message (FLT Ctl B Fail) appeared. The QRH gave no guidance on clearing the fault, so maintenance suggested a complete power down and restart. This cleared the CAS Message.</p> <p>10 Minutes later during climb out center called to verify our code and state no altitude reporting.</p> <p>While on the RNAV Z 24 approach to PASC at approximately 800 MSL. We received multiple glide slope aural warnings followed by a full-scale deflection of the glide path indicator which then triggered multiple ground proximity warnings. With the runway in sight, we remained visual and landed.</p> <p>Maintenance inspected and could not duplicate.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items | Responsible Person |
| <b>Overtorque</b>                         | <p><b>10/16/21 N407PA Reef Island</b></p> <p>Pilot was bringing in the first load of propane barrels from the vessel to the Reef Island site, and believed he had enough altitude to clear the trees at the edge of the site but was too low and the propane barrels made contact with the trees. Pilot felt the contact, applied aft cyclic</p> <p>Stopped the aircraft and checked the torque gauge. No limit was exceeded. Pilot then transitioned out the bubble window, positioned aircraft over the barrels, and pulled them up out of the trees. When transitioning back inside, pilot saw the Check Inst caution light was illuminated. Pilot reduced collective and saw the torque gauge indicated an exceedance had occurred. At this point he had the barrels so close to the deck I elected to place them there. After the crew unhooked load, the aircraft was landed on the adjacent pad.</p> <p>Maintenance was flowed to the site via the VDZ BO-105 and performed the visual inspection requirements of the overtorque inspection. The aircraft was then repositioned to VDZ using a special flight permit. The overtorque inspection was complied with and the aircraft was returned to service.</p> | Closed                    |                    |
| <b>Sheet Metal Dent</b>                   | <p><b>11/08/21 N305MH Akutan</b></p> <p>At approximately 17:50 on 11/8/2021, during post-flight of aircraft, a dent was discovered in the skin of aircraft N305MH below the pilot's door, around STA 38 where the skin slopes to form the belly of the aircraft. The dent is about 1 inch wide and 1/8 inch deep, and appears to be non-perforating with no cracks or tears.</p> <p>This was not previously noted by the pilot or mechanic during pre-flight or daily operations, and the pilot did not experience any events during flight that would cause suspicion of damage. Corrective action will be sanding the affected area to remove damaged/flaked paint and repainting the area to avoid corrosion. Damage will be readdressed at next major maintenance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             | Closed                    |                    |

SDR,MIR,MDR, not listed on the notable A/C items list

09/20/21 – N600MH – MDR – CAS messages – Faulty soldering during installation

GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list

|                                                                               |
|-------------------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list                      |
| CAN 21-01 – ASB412-20-181RA - Main rotor expandable blade bolt, inspection of |
| CAN 21-02 – ASB407-21-122 – Main rotor pitch link tube inspection             |
| CAN 21-03 – ASB206L-21-186RA – Main rotor pitch link tube inspection          |
| CAN 21-04 – AD2021-05-07 – inspect and replace starter gen wiring             |
| CAN 21-05 – AD2021-07-08 – Inspect mast flange area for cracks                |
| CAN 21-06 – AD2021-10-08 – 206 low fuel switch                                |
| CAN 21-07 – AD2021-03-15 – 119 tail rotor pitch change control mechanism      |
| CAN 21-08 – AD2021-10-14 – 105 TT strap retirement tracking                   |
| CAN 21-09 – AD2021-10-21 – 105 swashplate bellows                             |
| CAN 21-10 – AD2021-14-14 – 119 electrical                                     |
| CAN 21-11 – ASB407-21-123 – 407 300hr tailboom inspection                     |
| CAN 21-12 – AD2021-13-14 – Rescue hoist                                       |
| CAN 21-13 – ASB412-21-185 – tail rotor driveshaft assembly                    |
| CAN 21-14 – AD2021-15-06 – tail rotor disk pack                               |
| CAN 21-15 – AD2021-16-06 – 119 TRGB                                           |
| CAN 21-16 – AD2021-19-01 – Comfort clips                                      |
| CAN 21-17 – ASB407-21-125 – CPT, intro of                                     |
| CAN 21-18 – ASB407-21-126 – Pilot cyclic control stick balance                |
| CAN 21-19 – AD2021-20-18 – Improperly installed passenger cabin windows       |
| CAN 21-20 – AD2021-21-03 – damaged connecting link                            |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Item                                                | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items |
| Fuel                                                | <p><b>08/19/21 N306MH Granite Point Tank Farm</b></p> <p>On the helipad at Granite Point, a passenger was helping the pilot add fuel to the aircraft with five-gallon jerry cans. While adding fuel, the "SPILL RESISTANT" nozzle dribbled fuel onto the aircraft and ground. A duckpond and diapers were deployed in response to the rest of the spill and the rest of the refueling happened without incident. The Harvest Energy representative described the spill as 1/2 cup that was spilled onto the ground. Enough that they said that they would need to dig up the contaminated soil and dispose.</p> | Closed                    |

| Other Notable Non A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Plow and Plow Truck Damage                          | <p><b>10/06/21 2006 Chevrolet Plow Truck, Fairbanks</b></p> <p>Found damage to the RH side door...still functioning but dented on lower panel. Suspect damage occurred when plowing the ramp. Need to warn plow drivers not to push too hard or accelerate into set-up. Or wet snow.</p> <p>A-Arms of Plow also damaged and had to be replaced.</p>                                                                                                                                                                                                                                                                                         | Closed |
| DEF System                                          | <p><b>10/17/21 2021 Duramax work truck 14000 miles</b></p> <p>While driving to VDZ to support the N407PA AOG the truck began do go into limp mode. Speed was reduced to 4MPH. the truck was swapped with the work truck in GRB and the maintenance crew continued on the VDZ to complete the overtorque inspection.</p> <p><b>10/20/21</b> the truck was towed to Fairbanks from GRB under warranty. During the towing process the rear window was broken out. Fairbanks Lithia is working to replace the DEF tank and window under warranty.</p> <p><b>11/09/21.</b> Fairbanks Lithia ordered the DEF tank. Estimated three weeks out.</p> |        |

| AOG's for 2021                                                |
|---------------------------------------------------------------|
| 1. N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak           |
| 2. N314MH – 01/20/21 – PS5 – Transmission temp                |
| 3. N312MH – 01/27/21 – MTF – Transmission pressure            |
| 4. N600MH – 02/01/21 – Deadhorse – Fuel nozzle leak           |
| 5. N308MH – 02/07/21 – PS4 – Transmission pressure            |
| 6. N600MH – 03/01/21 – Deadhorse – Deice timer                |
| 7. N600MH – 04/23/21 – Deadhorse – Avionics start battery     |
| 8. N306MH – 07/19/21 – Homer – flight controls binding        |
| 9. N320MH – 07/19/21 – Deadhorse – engine oil pressure switch |
| 10. N320MH – 08/18/21 – Fairbanks – VG failed                 |
| 11. N320MH – 08/28/21 – Fairbanks – Engine oil leak           |
| 12. N320MH – 09/09/21 – Deadhorse – VG failed in flight       |
| 13. N308MH – 09/15/21 – Fairbanks – Pitch link bearing        |
| 14. N316MH – 09/20/21 – Coldfoot – Engine gearbox replacement |
| 15. N407PA – 10/16/21 – Valdez – Engine overtorque            |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| Deadhorse                  | 6 |
| PS4                        | 1 |
| Coldfoot                   | 1 |
| PS5                        | 1 |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| MTF                        | 4 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| Kenia                      |   |
| HOM                        | 1 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System              | Evidence                                                                                                      | Effectiveness                                                                                                                                                                                                     |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old           | ERP 26 current                                                                                                | Update: (no ERP planned 7/28/2021)                                                                                                                                                                                |
|                                       | Twin Otter ERP on 15 July Emergency Response Exercises added to iAuditor. Twin Otter was test bed             | Update: Twin Otter Exercise completed and in iAuditor                                                                                                                                                             |
| ---New                                | Discussed new version Conoco Phillips to incorporate CP difference and restructure                            | In progress/Discussion?<br>Conoco items tabled until contract develops.<br>(Update: tabled for the season which did not develop)                                                                                  |
| Station Checklists-Audit Program- OLD | COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions. | Pump Four, GRB, Valdez, and Fairbanks, Kodiak & Valdez mgmt. audits complete for 2021. OSHA visited GRB and thought everything looked great. Homer is only out-standing mgmt. audit (post season-Dennis & Isaac?) |
|                                       | Audits?                                                                                                       | Corrected with ASRAP                                                                                                                                                                                              |
|                                       | Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items                          |                                                                                                                                                                                                                   |
|                                       | EXXON and NASA Audits                                                                                         | Discussion                                                                                                                                                                                                        |
| New                                   |                                                                                                               |                                                                                                                                                                                                                   |

| Safety Management System                           | Evidence                                                                                                                                                            | Effectiveness                                                                                                                                         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Management of Change</p> <p>OLD</p> <p>NEW?</p> | <p>Red Cross training plan for fall.</p> <p>Online academics with in-person practical skills?</p>                                                                   | <p>First Aid/CPR/AED Training completed with Blended learning system, only requiring 1 hour in classroom and 2-4 hours of online time per student</p> |
| <p>Overall Safety Effectiveness-OLD</p>            | <p>Better diligence on FIRs/GORs this quarter. Was mentioned last quarter as lacking</p> <p>ISNetworld showing F grade right now on Alyeska and C on Oil Search</p> | <p>Insurance info corrected on ISN</p>                                                                                                                |

| Safety Management System | Evidence                                                                                      | Effectiveness                                                                    |
|--------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|                          | <p>ASRAP from EXXON almost complete...need to submit</p> <p>Need Fire Drill at Homer</p>      | Continue toolbox talks on audit subjects and toolbox inspections in preparations |
| OLD                      | Look into Emergency Response Coordination Team contract (Kenyon) for Conoco Contract & others | Tabled                                                                           |

#### Flight Operational Quality Assurance (FOQA) Steering Committee:

DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?)

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 01/20/22 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

2<sup>nd</sup> Quarter

July 2021

Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 07/30/21 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                                                |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                                                |
| <b>FACILITATOR</b>       | Isaac Mackey                                                                                |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, Matt Stevens, and Dennis Bush. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------------------|
| <p><b>07/13/2020 N600MH</b></p> <p>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>Pursuing remediation for system. More to follow</p> <p><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b></p> <p><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.</p> <p><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>04/29/21</b> Software update in progress</p> <p><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting left this an open item.</b></p>                                                     | Isaac Mackey | Mark Hedlund       | TBD      | Open               |
| <p><b>GOR: 202019 Mast Damage 12/14/2020 Bell 407 N407PA</b></p> <p>During 12 month mast inspection, damage was found that was felt by fingernail on the upper cone seat. Mast Assembly was taken to the overhaul shop where technician inspected mast assembly with high powered microscope. Damage was found to be a crack.</p> <p>Removed Mast Assembly from service and awaiting warranty repair from Bell.</p> <p>Once in the overhaul shop the damage was determined to not be a crack but fretting on the upper cone seat.</p> <p><b>01/19/21</b> Still waiting for repair information form PSE.</p> <p><b>Jan 21<sup>st</sup> CASS moved this to an open item.</b></p> <p><b>02/15/21</b> PSE gave an approved in house repair. The mast was repaired and returned to service.</p> <p><b>April 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Jackson Cole       | 04/29/21 | Closed<br>04/29/21 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>Compressor cracked 12/17/20 Bell 407 N312MH</b></p> <p><b>01/21/21</b> Still missing FIR from Dennis</p> <p><b>Jan 21<sup>st</sup> CASS moved this to an open item.</b></p> <p><b>04/29/21</b> Still missing FIR from Dennis</p> <p><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b></p> <p><b>12/18/21</b> Aircraft ferried from PS4 to Fairbanks for low power. Compressor inspected and found to have large crack in compressor scroll. Removed compressor and installed serviceable. Aircraft returned to service.</p> <p><b>02/01/21</b> Compressor inspected at Airborne Engines. Compressor scroll replaced. Total cost for compressor inspection was \$38,531.78</p> <p><b>No GOR or FIR</b></p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Dennis Busch       | 07/30/21 | Closed 07/30/21 |

| Notable A/C items since last CASS meeting        |                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                             | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
|                                                  | <p><b>N600MH 04/30/21</b></p> <p>#1 prop deice inop. Part ordered and replaced. Aircraft returned to service. No GOR</p>                                                                                                                                                                                                                                                                                              | Closed 07/30/21           |                    |
|                                                  | <p><b>N315MH 05/24/21</b></p> <p>Aircraft had leaking oil pump. Removed pump assembly, found shaft to be out of limits. Replaced oil shaft, aircraft returned to service. No GOR</p>                                                                                                                                                                                                                                  | Closed 07/30/21           |                    |
| <p><b>FIR</b></p> <p><b>Crew flight time</b></p> | <p><b>Bell 206 Flight Hours Overflown</b></p> <p>On 07 Jun 2021 I flew 8.9 hours. Pilot was doing repeated runs from Kodiak to Ahkiok and back. On the final run of the day the pilot encountered unexpected weather on his route that required that he slow down significantly. This caused the pilot to land with 8.9 hours. Pilot had 16 hours of rest before next scheduled flight. Chief Pilot was informed.</p> | Closed 07/30/21           |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                  |                           |                    |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                              | Move to open action items | Responsible Person |
| <b>GOR flight control friction</b>        | <b>N312MH 06/01/21 Pedal Minimum Friction Force</b><br><br>While checking pedal force as part of A0055 Inspection (AAIP), mechanic discovered little or no friction in pedals. The nut for the pedal friction clamp was free spinning. Replaced the friction clamp nut and adjusted the pedal friction IAW B407MM. Aircraft returned to service. | Closed 07/30/21           |                    |
| <b>Gen FAIL</b>                           | <b>N407RH 07/22/21</b><br><br>Pilot reported Gen FAIL amber light at landing (END OF DAY), reset the GEN Switch and the light extinguished. Mechanic found a broken ring terminal at "D" post on the starter generator. Replaced ring terminal with a new one. Operational check was completed with no faults. Aircraft returned to service      | Closed 07/30/21           |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                                               |
|-------------------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list                      |
| CAN 21-01 – ASB412-20-181RA - Main rotor expandable blade bolt, inspection of |
| CAN 21-02 – ASB407-21-122 – Main rotor pitch link tube inspection             |
| CAN 21-03 – ASB206L-21-186RA – Main rotor pitch link tube inspection          |
| CAN 21-04 – AD2021-05-07 – inspect and replace starter gen wiring             |
| CAN 21-05 – AD2021-07-08 – Inspect mast flange area for cracks                |
| CAN 21-06 – AD2021-10-08 – 206 low fuel switch                                |
| CAN 21-07 – AD2021-03-15 – 119 tail rotor pitch change control mechanism      |
| CAN 21-08 – AD2021-10-14 – 105 TT strap retirement tracking                   |
| CAN 21-09 – AD2021-10-21 – 105 swashplate bellows                             |
| CAN 21-10 – AD2021-14-14 – 119 electrical                                     |
| CAN 21-11 – ASB407-21-123 – 407 300hr tailboom inspection                     |
| CAN 21-12 – AD2021-13-14 – Rescue hoist                                       |
| CAN 21-13 – ASB412-21-185 – tail rotor driveshaft assembly                    |
| CAN 21-14 – ASB206L-09-157 – tail rotor disk pack                             |

|                        |                |                          |
|------------------------|----------------|--------------------------|
| Teardown reports       |                |                          |
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

|                                                         |          |             |
|---------------------------------------------------------|----------|-------------|
| Recent AD's and manufactures bulletins not listed above |          |             |
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2021 |                                                            |
|----------------|------------------------------------------------------------|
| 1.             | N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak           |
| 2.             | N314MH – 01/20/21 – PS5 – Transmission temp                |
| 3.             | N312MH – 01/27/21 – MTF – Transmission pressure            |
| 4.             | N600MH – 02/01/21 – Deadhorse – Fuel nozzle leak           |
| 5.             | N308MH – 02/07/21 – PS4 – Transmission pressure            |
| 6.             | N600MH – 03/01/21 – Deadhorse – Deice timer                |
| 7.             | N600MH – 04/23/21 – Deadhorse – Avionics start battery     |
| 8.             | N306MH – 07/19/21 – Homer – flight controls binding        |
| 9.             | N320MH – 07/19/21 – Deadhorse – engine oil pressure switch |
| 10.            |                                                            |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| Deadhorse                  | 5 |
| PS4                        | 1 |
| Coldfoot                   |   |
| PS5                        | 1 |
| MTF                        | 1 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        |   |
| Kenia                      |   |
| HOM                        | 1 |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings |                   |
|-----------------------------------|-------------------|
| Finding                           | Corrective action |
|                                   |                   |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |



| Safety Management System                                                                  | Evidence                                                                                          | Effectiveness                                 |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <p>Management of Change</p> <p>OLD</p><br><br><br><br><br><br><br><br><br><br><p>NEW?</p> | <p>Red Cross training plan for fall.</p> <p>Online academics with in-person practical skills?</p> |                                               |
| Overall Safety Effectiveness-OLD                                                          | <p>Only a few FIR/GORs this quarter. Discussion?</p> <p>OSHA kudos</p>                            | Only a few FIR/GORs this quarter. Discussion? |

| Safety Management System | Evidence                                                                                      | Effectiveness                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|                          | <p>Exxon/EAD.. summer visit postponed</p> <p>Need Fire Drill at Homer</p>                     | Continue toolbox talks on audit subjects and toolbox inspections in preparations                    |
| OLD                      | Look into Emergency Response Coordination Team contract (Kenyon) for Conoco Contract & others | Would be placed in ERP Manual if approved. Emails from Kenyon being exchanged now. (tabled for now) |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?) |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 10/21/21 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

## April 2021 Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 04/29/21 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                                                |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                                                |
| <b>FACILITATOR</b>       | Isaac Mackey                                                                                |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, Matt Stevens, and Dennis Bush. |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
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10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>202014 06/09/2020 N306MH</b></p> <p>About 0800, pilot was preparing to take passengers to Sharaton Mountain. On first attempt, after rolling the collective to induce fuel, the engine failed to light off. Start was aborted and pilot waited 60 seconds. On the second start attempt, TOT rose rapidly after fuel introduction. After noting rapid TOT rise, the pilot aborted the start again. After waiting the 60 seconds to try the third start, engine appeared to start normally with steady TOT rise. Only apparent discrepancy was that the first "peak" was close to 829 TOT and then the second peak was in the 10 second window. Second peak was around 850. TOT was dropping and beginning to stabilize when the TOT light came on after exceeding 10 seconds above 768. Flight was aborted.</p> <p><b>(maintenance comments missing)</b></p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>Sept 29<sup>th</sup> CASS meeting awaiting maintenance comments.</b></p> <p><i>06/09/20 Insp OCC and liner, no defects. Performed TOT system ops check. No defects. Performed igniter insp. No defects. Performed ground run and leak checks. No defects</i></p> <p><b>Jan 21<sup>st</sup> CASS meeting closed this item.</b></p> | Isaac Mackey | Steve Slade        | 09/29/20 | Closed 01/21/21 |
| <p><b>07/13/2020 N600MH</b></p> <p>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>Pursuing remediation for system. More to follow</p> <p><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b></p> <p><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.</p> <p><b>Jan 21<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>04/29/21</b> Software update in progress</p> <p><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Isaac Mackey | Mark Hedlund       | TBD      | Open            |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>07/20/2020 Bell 407 N312MH</b></p> <p>During 312MH XMSN change the mechanic noticed compressor damage possibly due to FOD. Mechanics then blended out the damage and after blending, the damage was within limits. Possible FOD damage from bypass doors opening was suspected.</p> <p><b>Sept 29<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>A new policy will be put in place requiring the pilot to notify maintenance any time the bypass door is opened via logbook entry and FIR. Maintenance will perform the required compressor inspection. This policy will be put forth via CAS memo for distribution.</p> <p>09/29/20 CAS Memo issued to put new police into effect.</p> <p><b>Jan 21<sup>st</sup> CASS Meeting closed this item.</b></p>                                                           | Isaac Mackey | Dave Jones         | 01/21/21 | Closed 01/21/21 |
| <p><b>09/01/20 Bell 206L3 N305MH</b></p> <p>First start of the afternoon was aborted due to high TOT. On second attempt, the first "spike" peaked at or equal to 850 degrees. Second peak hit the red dot (927) for less than one second.</p> <p><b>09/29/20</b> Missing maintenance comments</p> <p><b>01/20/21</b> After a successful hot section inspection the aircraft was returned to service.</p> <p><b>Sept 29<sup>th</sup> CASS moved this to an open item.</b></p> <p><b>01/20/21</b> Pilots continued to report high TOT start issues. After contacting Rolls Royce it was determined to be two separate issues. After replacing the starter and the fuel control the start sequence was within manufacturers specifications. Aircraft returned to service</p> <p><b>Jan 21<sup>st</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Steve Slade        | 01/21/21 | Closed 01/21/21 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>GOR: 202019 Mast Damage 12/14/2020 Bell 407 N407PA</b></p> <p>During 12 month mast inspection, damage was found that was felt by fingernail on the upper cone seat. Mast Assembly was taken to the overhaul shop where technician inspected mast assembly with high powered microscope. Damage was found to be a crack.</p> <p>Removed Mast Assembly from service and awaiting warranty repair from Bell.</p> <p>Once in the overhaul shop the damage was determined to not be a crack but fretting on the upper cone seat.</p> <p><b>01/19/21</b> Still waiting for repair information form PSE.</p> <p><b>Jan 21<sup>st</sup> CASS moved this to an open item.</b></p> <p><b>02/15/21</b> PSE gave an approved in house repair. The mast was repaired and returned to service.</p> <p><b>April 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Jackson Cole       | 04/29/21 | Closed 04/29/21 |
| <p><b>Compressor cracked 12/17/20 Bell 407 N312MH</b></p> <p><b>01/21/21</b> Still missing FIR from Dennis</p> <p><b>Jan 21<sup>st</sup> CASS moved this to an open item.</b></p> <p><b>4/29/21</b> Still missing FIR from Dennis</p> <p><b>April 29<sup>th</sup> CASS Meeting left this an open item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Isaac Mackey | Dennis Busch       | 07/22/21 |                 |

| Notable A/C items since last CASS meeting       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                    |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                            | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Move to open action items | Responsible Person |
| <b>FIR: 202101<br/>Fuel Nozzle and manifold</b> | <p><b>01/03/2021 Viking Twin Otter N600MH</b></p> <p>Fuel Nozzle and nozzle manifold leaking. This is a repeat discrepancy from FIRs on 12/27/20 and 12/31/20. Mechanic replaced ORINGS and gaskets on each occasion with good initial engine run and leak checks. After Flying, the nozzles were inspected with no leaks. However, the nozzles appeared to leak after the engines cooled down. Leaks were found during the next morning's preflight. A new nozzle and manifold were ordered.</p> <p>Multiple changes of ORINGS and gaskets to the #9 and flow divider fuel nozzles with the same results as a fuel leak when the engine has cooled down. #9 Fuel nizzle was relocated to the #11 spot to see if the issue followed. It did follow. Parts were placed on order to replace the number 11 and flow divider fuel nozzle.</p> <p>Three days of total downtime due to issues</p> | Closed<br>04/29/21        |                    |
| <b>FIR 202102<br/>Starter Toggle Switch</b>     | <p><b>01/07/2021 B407 N312MH</b></p> <p>During the morning start sequence for AT&amp;T repeater maintenance, pilot pushed the start switch numerous times without any engagement of the starter.</p> <p>After troubleshooting, starter toggle switch on collective, was found to be inoperative. Replaced with serviceable switch. Ops check good. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Closed<br>04/29/21        |                    |

| Notable A/C items since last CASS meeting                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                    |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                                                             | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Move to open action items | Responsible Person |
| <b>FIR 202103<br/>Transmission Oil Pressure Indications (Electrical Connectors at Temp Bulb)</b> | <p><b>01/20/2021 B206L4 N314MH</b></p> <p>Pilot was preparing to depart from PS5 to YRB. After engine start and required time at idle, aircraft was run-up to 100% flight idle. Before takeoff checks were performed. Pilot noticed that Transmission Oil Pressure was pegged out at the top of the temperature gauge. The Transmission Oil Temp Caution Light was not illuminated on the master caution panel.</p> <p>Mechanic disconnected connector at gauge-needle went to ZERO (0). Reconnected on gauge and temp was maxed out. Continuity check of all wires to gauge connector to associated locations in systems ALL OKAY. Checked lines from Temp bulb and Circuit breaker to Associated locations withing systems. ALL OKAY. Completed all troubleshooting IAW BAT -206-L4-MM Fig 63-1-Suspect Bad Gauge. Awaited parts from Fairbanks Base. On morning of 1/21/2021, Mechanic was addressing other wiring issues under the center console shroud. While in the vicinity, he decided to remove and inspect pins at gauge and temp bulb connectors. Removed, inspected, and reinstalled. Installed connectors with some DOW Corning 4 (installed connector on gauge to keep out of the way while he was doing other wiring) Once completed with other wiring, turned on aircraft power and gauge was now reading properly. Operational Check was completed with pilot. Checked OKAY.</p> | Closed<br>04/29/21        |                    |
| <b>FIR: 202104<br/>Transmission Oil Warning Light</b>                                            | <p><b>01/27/2021 B407 N312MH</b></p> <p>During Security flight, pilot did a regular crosscheck of ACFT instruments and saw the transmission oil pressure was reading 0 PSI. Pilot Landed aircraft on Pipeline Right of Way and performed a rapid shutdown and then called Fairbanks Maintenance.</p> <p>Once on scene, mechanic opened front cowling and side snap panels. Conducted a check to see if there was any evidence of leakage. No leakage or disconnected oil lines were found. Checked transmission oil level which was normal/serviceable.</p> <p>Next, the Oil Pressure transmitter/transducer was replaced with its O-Ring. Pilot and mechanic conducted a leak check and function check with no faults noted. FOD check was completed, and Panels were all closed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Closed<br>04/29/21        |                    |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items | Responsible Person |
| <b>FIR: 202105<br/>Flow Divider<br/>Fuel Leak</b> | <p><b>02/01/2021 Twin Otter N600MH</b></p> <p>02/01/21 approximately 13:00 after returning from a flight I asked maintenance to check the right #2 engine for a possible fuel leak. The inspection revealed a fuel leak around the flow divider and spray nozzle.</p> <p>Replaced fuel nozzles and flow divider IAW Pratt &amp; Whitney MM. Performed leak check. No discrepancies noted.</p> <p>(one day of downtime to Customer)</p> | Closed<br>04/29/21        |                    |
| <b>GOR: 202101<br/>Missing Cotter<br/>Pin</b>     | <p><b>02/01/21 B407 N312MH</b></p> <p>On preflight inspection, Pilot found the engine throttle linkage, missing a cotter pin.</p> <p>Mechanic was notified of the missing cotter pin. Security of the linkage itself was check and then a cotter pin was installed. Pilot followed up with FOD check for the incident.</p> <p>Added to toolbox talks subjects</p>                                                                      | Closed<br>04/29/21        |                    |
| <b>FIR: 202106<br/>Start Issues</b>               | <p><b>02/04/2021 B407 N319MH</b></p> <p>During a normal start procedure, the engine failed to ignite and aborted. Three starts were unsuccessful and all aborted. Normal start was completed on the fourth start and the aircraft was returned to GRB base.</p> <p>Removed and replaced igniter, performed 4 consecutive starts with no issues. Aircraft returned to service</p> <p>Fuel nozzle</p>                                    | Closed<br>04/29/21        |                    |

| Notable A/C items since last CASS meeting                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>FIR: 202107<br/>Engine Chip Detector</b>               | <p><b>02/10/2021 B407 N407RH</b></p> <p>Engine Chip light illuminated on Alyeska security flight with passenger. Aircraft was landed along right-of-way and maintenance was notified.</p> <p>Mechanic removed engine gearbox chip detector and lower chip detector. Inspected both for evidence of chips with NONE found. Cleaned both chip detectors &amp; installed back into engine. Performed 20-minute ground run and leak check. No leaks and chip detector did not illuminate. Release aircraft back to service</p> | Closed<br>04/29/21        |                    |
| <b>FIR:202108<br/>Torque gauge damage</b>                 | <p><b>03/27/2021 B407 N319MH</b></p> <p>On preflight, engine torque gauge was found broken and hanging out of the instrument panel. Maintenance was called and gauge was replaced. Delay to customer was approximately one hour (Alyeska).</p>                                                                                                                                                                                                                                                                             | Closed<br>04/29/21        |                    |
| <b>FIR: 202109<br/>Transmission Oil Gauge Inoperative</b> | <p><b>03/24/2021 B206L4 N314MH</b></p> <p>After start and ground idle, ran aircraft up to 100%, and performed final takeoff checks. Noticed that transmission Oil/Temp indicator temperature needle was maxed out beyond reading of the gauge. Takeoff was cancelled.</p> <p>MEL'd the discrepancy and ordered Indicator (24th)<br/>Gauge was replaced on the 25th.</p>                                                                                                                                                    | Closed<br>04/29/21        |                    |
| <b>GOR: 202102<br/>Sheetmetal Damage</b>                  | <p><b>4/6/21 B206L4 N316MH</b></p> <p>On Postflight, found several small dents in skin at Station 88 waterline 44.</p> <p>Maintenance investigated and found damage within acceptable limits per BH SRM. No action required.</p>                                                                                                                                                                                                                                                                                           | Closed<br>04/29/21        |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                                               |
|-------------------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list                      |
| CAN 21-01 – ASB412-20-181RA - Main rotor expandable blade bolt, inspection of |
| CAN 21-02 – ASB407-21-122 – Main rotor pitch link tube inspection             |
| CAN 21-03 – ASB206L-21-186RA – Main rotor pitch link tube inspection          |
| CAN 21-04 – AD2021-05-07 – inspect and replace starter gen wiring             |
| CAN 21-05 – AD2021-07-08 – Inspect mast flange area for cracks                |
|                                                                               |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2021 |                                                        |
|----------------|--------------------------------------------------------|
| 1.             | N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak       |
| 2.             | N314MH – 01/20/21 – PS5 – Transmission temp            |
| 3.             | N312MH – 01/27/21 – MTF – Transmission pressure        |
| 4.             | N600MH – 02/01/21 – Deadhorse – Fuel nozzle leak       |
| 5.             | N308MH – 02/07/21 – PS4 – Transmission pressure        |
| 6.             | N600MH – 03/01/21 – Deadhorse – Deice timer            |
| 7.             | N600MH – 04/23/21 – Deadhorse – Avionics start battery |
| 8.             |                                                        |

| AOG's for 2021 by Location |   |
|----------------------------|---|
| Deadhorse                  | 4 |
| PS4                        | 1 |
| Coldfoot                   |   |
| PS5                        | 1 |
| MTF                        | 1 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        |   |
| Kenia                      |   |
| HOM                        |   |
| Kodiak                     |   |
| Akutan                     |   |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Repeat Finding: Tool Control:</b> Tool control is still an issue in Fairbanks hanger for maritime helicopters. Maritime is not following their own policy on consumable items as they were present and toolboxes and on accounted for in personal drawers.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters mechanics are following documented company tool control policy to include specific areas such as consumables in tool boxes to meet the intent of AOG guidelines section 4.4.9.</p>                                                                                                     | <p>There is a very mature tool control program at Maritime. The GMM prescribes the on-shift and off-shift inventories which are being accomplished by mechanics and also spot checked by maintenance leads and Q&amp;S. One consumable item to which there was some confusion was spools of aircraft safety wire. This is being allowed into tool boxes in a shadowed position as with other tools. Photos evidences of daily inventories, shadow boxing and actual tool drawers attached as exhibits 1905201H (#1-#5). Disagree with this as a high risk item. Maritime has had only one FOD incident in five years which involved a customer having access to the aircraft and leaving a rag on the aircraft.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p> |
| <p><b>Repeat Finding: FOD control.</b> During walkthrough of the Maritime Helicopters maintenance facility it was noted that FOD was present in company tool boxes, and does not meet the expectations of ExxonMobil Aviation Services for FOD control as outlined in the AOG paragraph 4.4.10.</p> <p><b>Recommendation:</b> Ensure that FOD programs meet the intent of the ExxonMobil AOG section 4.4.10.</p>                                                                                                                                                                                                       | <p>Spot checks are ongoing. CAS Memo produced and attached as exhibit 190502H #1 regarding FOD Program Promotion.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Finding: Incident and Hazard Reporting.</b> During the review of the Safety Management System (SMS) program for Maritime Helicopters, the answers provided to the Advisors' questions indicated that the incident and hazard reporting system is not effective, and is not being tracked in the Maritime Helicopters SMS system.</p> <p><b>Recommendation:</b> Work to further refine the incident and hazard reporting program and begin tracking and trending of reports. This can be done by the use of safety promotion, training, and increasing the general understanding level of the SMS as a whole.</p> | <p>Not certain about the comment here. Enclosed are exhibits 190501 (#1-#3). The Flight Irregularity Report and the Ground Occurrence Reports have good participation and tracking from the initial incident through management review at the quarterly Continuing Aviation Surveillance System Meetings' Safety Review. FIRs and GORs are also distributed to the workforce in the form of the quarterly safety notes as part of Continuous Improvement and Safety Promotion</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                               |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Finding: Publication Control.</b> While conducting aircraft hangar inspection in Fairbanks, Alaska it was noted that printed publications were present in aircraft tool boxes which is against Maritime Helicopters publications control policy.</p> <p><b>Recommendation:</b> Ensure that the policy is being followed as written, and copied publications are not present in tool boxes.</p>                                                                                          | <p>There was a single evidence of a mechanic whom had printed a page from the Bell manual to accomplish a task and then not destroyed the copy. GMM reference changed to include the printing of “uncontrolled copy” footer on all technical manual reproduction. Exhibit 190503M #1</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                  |
| <p><b>Finding: Aircraft Logbooks.</b> During review of aircraft logbooks it was noted that aircrew preflight signature acceptance documentation was missing.</p> <p><b>Recommendation:</b> Ensure that pilots are following logbook documentation procedures for acceptance of aircraft regarding pre-flight.</p>                                                                                                                                                                             | <p>CAS Memo attached to stress completion of records and will also include the system for changing errors made in aircraft logbooks associated with finding 190505L</p> <p>Exhibit 190505M #</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                          |
| <p><b>Finding: Emergency Response Plan.</b> During review of the Maritime Helicopters emergency response plan program it was noted that expectations do not meet ExxonMobil AOG 10.2.1 guidelines. There was no documentation on drills, and how they manage the deficiencies noted during drills.</p> <p><b>Recommendation:</b> Ensure that the emergency response plan drill deficiencies are identified, and assigned to personnel for rectification with target dates for completion.</p> | <p>Discussed the ERP addition to the iAuditor program. (Exhibit 190506M #1). It was also discussed that ERP has been added to the Safety Portion of the Quarterly CASS Meeting with the complete Safety Committee attending. Management participation in ERP has been positive and ERP will be added to regular audit schedule. ERP is still discuss at all indoctrination Training and (now) annual instead of biannual safety training</p> <p><b>Recent audit Exxon witnessed ERP, satisfied.</b></p> |
| <p><b>Finding: Audit Plan.</b> During a review of the Maritime Helicopters quality assurance program it was identified that no annual audit plan exists, and no tracking of audits was available.</p> <p><b>Recommendation:</b> Create an annual audit plan, and tracking system to ensure scheduled audits are completed on an annual basis.</p>                                                                                                                                             | <p>Audit plan has always existed and <i>was previously</i> more focused on a manual system with results entered into an Excel format. Now, with iAuditor (discussed with Aviation Advisor and on the <i>suggestion</i> of the aviation advisor) the audit plan is stored in iAuditor. Exhibit 190507 #1</p> <p><b>Closed</b></p>                                                                                                                                                                        |
| <p><b>Finding: Risk Register.</b> During review of the Maritime Helicopters quality management program it was noted that there was no audit feedback to the risk register to identify new risks in the Maritime Helicopters operation.</p> <p><b>Recommendation:</b> Ensure that the audit function has a tie back to the risk register to ensure risk identification and risk mitigation for the quality management system that meets the intent of the ExxonMobil AOG section 2.0.3</p>     | <p>Finding Under Review. Having added the Safety Review portion to the quarterly CASS meeting. The “management involvement and feedback” is being accomplished.</p> <p><b>Closed</b></p>                                                                                                                                                                                                                                                                                                                |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Corrective action                                                                                                                                                                                                                                                                                                 |
| <p><b>Finding: Shelf Life Control.</b> During a review of the Maritime Helicopters spares department items were identified that were past shelf life, and did not match dates being tracked in the stores control system.</p> <p><b>Recommendation:</b> Ensure that all items entered into the stores control system are entered accurately, and match shelf life dates on parts that are on the shelves.</p>                                             | <p>There was a single item that was transcribed into the CALM program improperly. It was not expired during the audit visit and the monthly, shelf life item inventory would have caught the mistake. Exhibit 190501L #</p> <p><b>Closed from previous audit.</b></p>                                             |
| <p><b>Finding: SMS training.</b> During the review of the SMS program it was noted that SMS training is accomplished every two years. Given the findings concerning incident and hazard reporting, the Advisor felt training on the Maritime Helicopters SMS could be stronger.</p> <p><b>Recommendation:</b> Conduct SMS training annually.</p>                                                                                                          | <p>Quality &amp; Safety has added SMS training on annual basis</p> <p><b>Closed</b></p>                                                                                                                                                                                                                           |
| <p><b>Finding: Stabilized Approach.</b> During a review of the Maritime Helicopters operations manual it was noted that the stabilized approach rate of decent exceeds the AOG allowable of 750 ft. /min.</p> <p><b>Recommendation:</b> Ensure that the Maritime Helicopters operations manual notes that if a rate of decent exceeds the AOG maximum, that a verbal briefing is conducted to meet the intent of the ExxonMobil AOG section 6.11.3.d.</p> | <p>The Maritime SOP has been revise to reflect the policy of AOG's 750 ft./min rate of descent for stabilized approaches Exhibit 190503L #1 (2 Pages)</p>                                                                                                                                                         |
| <p><b>Finding: PED Policy.</b> During a review of the Maritime Helicopters operations manual it was noted that there is no personal electronic device policy.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters creates a personal electronic device policy, and inserts it into the current operations manual to meet the expectations of the AOG section 6.11.6.</p>                                                                       | <p>Maritime SOP Changed to include a more AOG compliant policy regarding Personal Electronic Devices. Exhibit 190504L #1</p> <p><b>Closed</b></p>                                                                                                                                                                 |
| <p><b>Finding: Dangerous Goods Storage.</b> During a review of the Maritime Helicopters spares department it was noted that dangerous good items are not segregated on the shelves from standard spares.</p> <p><b>Recommendation:</b> Ensure that all dangerous goods items are segregated in a dangerous goods area in the store room.</p>                                                                                                              | <p>Dangerous Good Categorization is for shipping of items aboard aircraft under IATA. The flares in question were in their original packaging and stored IAW the SDS. (190509L #1). Flares have been moved to a military style ammunition can on the insistence of the aviation advisor.</p> <p><b>Closed</b></p> |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System                                | Evidence                                                                                                                                                                                                                                                                                                                                                                                                         | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Emergency Response Plan-Old</p> <p>New</p>           | <p>Probably need to do an exercise with the Koala/B412 primary/backup---self supported ERP up at OSI?</p> <p>Twin Otter ERP on 15 July Emergency Response Exercises added to iAuditor. Twin Otter was test bed</p> <p>Current Pocket Checklist is Version 24 (blue) still working site specific EPC for Twin Otter</p> <p>Discussed new version Conoco Phillips to incorporate CP difference and restructure</p> | <p>Shortened Koala season. Only tabletop discussions. Tabled until Spring 2021<br/>Will work with OSI Pilot to accomplish this ERP for Summer 21 season</p> <p>.</p> <p>Towbar is on site at Point Thompson. Will consider this item closed but wait for final comments from Exxon Aviation Division<br/>Closed</p> <p>Scott F. had a version. Just need to finalize Prudhoe version. Check on new version at 9/29 CASS. Was this ever completed?<br/>4/29/21: close item and continue with One ERP checklist only</p> <p>In progress/Discussion?<br/>Conoco items tabled until contract develops</p> |
| <p>Station Checklists-Audit Program- OLD</p> <p>NEW</p> | <p>COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions.</p> <p>Tentative Homer, GRB, &amp; Valdez Audits scheduled for February Busch/Mackey</p> <p>Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items</p> <p>Craig J is accomplishing weekly and monthly fuel audits.<br/>Now need to train Jeremy?</p>              | <p>Working around COVID, Kodiak and PS#4 were accomplished in 4rth quarter</p> <p>TBD May/June 2021</p> <p>.</p> <p>DONE</p> <p>Continue to monitor when annual and vendor audits are complete</p>                                                                                                                                                                                                                                                                                                                                                                                                    |

| Safety Management System                                  | Evidence                                                                                                                                                                                                                                                                                                                                                                                                | Effectiveness                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Management of Change</p> <p>LD</p> <p>O</p> <p>NEW</p> | <p>AW119 &amp; NVGs Closed out? One year Review?</p> <p>FOQA/FDM/HFDM- This is first month of FOQA review at CASS mtg to close out Exxon audit finding/</p> <p>ConocoPhillips needs an example of MOC for the bid/tender process</p> <p>MOC for HFDM for Conoco aircraft for next summer? B407x2?</p> <p>Red Cross training plan for fall.</p> <p>Online academics with in-person practical skills?</p> | <p>Left in here for one last check. All complete?</p> <p>Closed</p> <p>Discussion We've had a few of these now...can we call the issue completed as we now have a working system?</p> <p>Closed 4/29/21</p> <p>Discussion-Tabled</p> <p>(Canceled?)</p> <p>Developing curriculum</p> |
| Overall Safety Effectiveness-OLD                          | Incident Reporting improved this quarter                                                                                                                                                                                                                                                                                                                                                                | <p>Effectiveness</p> <p>Lots of FIRs and GORs. Great job in reporting.</p> <p>Closed: all incident reporting will be kept in one database RW/FW</p> <p>4/29/21</p>                                                                                                                   |

| Safety Management System | Evidence                                                                                                                                                                                                                                                                                                                                                                                                    | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p>Exxon holding two week meetings, many items closed out</p> <p>Not getting a lot of feedback from toolbox talks or written documentation. Now on EXXON audit</p> <p>Safety Awareness/Training: Alyeska &amp; Exxon requiring certain safety subjects on Elite/OSHA/Flight Safety topics.</p> <p>QA/QC training for EXXON was proposed for Mackey...Thought of using Six Sigma online through Aveta U.</p> | <p>From Mark O. "Now awaiting amended ASRAP from C. Ross." Many items closed out. Still need to work on a few DOM issues. (toolbox talk topics for the year.<br/> <b>Tabled the whole thing from Mark and Neil...awaiting input from Exxon Aviation office</b></p> <p>Keep stressing Toolbox talks! <b>(need a hard and fast policy from DOM) Fairbanks Talks are recorded and doing well. Have documents from Homer and Fairbanks now. Continue to monitor TT program</b></p> <p>Need Fire Drill at Homer.</p> <p>SMS Training to be added annual instead of biannual (already done for Alyeska) Annual SMS training successful with Alyeska personnel. Add Homer when able.</p> <p><b>Added ThinkHR to Safety Training and that program is continuing pretty well. Exxon accepting that for Safety Training. Great job by Tiffany! Concerns voiced on time to complete think HR training. Needs more discussion</b><br/> Mackey has the Six Sigma Green belt</p> |
|                          | <p>SMS Policy all signed by leadership Team?</p> <p>Look into Emergency Response Coordination Team contract (Kenyon) for Conoco Contract &amp; others</p>                                                                                                                                                                                                                                                   | <p>In progress <b>(printed names in current version) Closed</b></p> <p>Would be placed in ERP Manual if approved. Emails from Kenyon being exchanged now. <b>(tabled for now)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|-----------------------------------------------------------------|
| Flight Operational Quality Assurance (FOQA) Steering Committee: |
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| DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation. (Follow up?) |
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|                                 |
|---------------------------------|
| Next CASS meeting scheduled for |
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| 07/22/21 |
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**Maritime Helicopters**

**CASS**

Continued Airworthiness Surveillance System

**Jan 2021**

**Meeting minutes**

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 01/21/21 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                           |
|--------------------------|---------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                              |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                              |
| <b>FACILITATOR</b>       | Isaac Mackey                                                              |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Steve Slade, Dave Buzga, Mark Hedlund, Matt Stevens |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>Eng Chip light N304MH 02/07/2020</b></p> <p>During downwind leg to the second landing site, the engine chip light illuminated. Pilot aborted the planned approach to the confined area</p> <p><b>(no maintenance comments)</b></p> <p><b>March 25<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting left this as an open item.</b></p> <p><b>07/31/20</b> <i>Received maintenance comments.</i><br/> <i>Engine chip light</i><br/> 06-29-19 at ACTT 12192.9<br/> 08-30-19 at ACTT 12269.3<br/> 12-13-19 at ACTT 12338.5<br/> 02-10-20 at ACTT 12346.1</p> <p><b>02/13/20</b> <i>Replaced turbine, compressor and gearbox due to multiple chip lights in the last 150hrs. Airborne Engines gearbox teardown report confirms the source of the chip lights.</i></p> <p><b>02/13/20</b> Turbine time continued repair for \$5680.72 and compressor inspection for \$5186.72</p> <p><b>03/03/20</b> Airborne engines Gearbox quote for \$72,046.06</p> <p><b>03/05/20</b> Purchase serviceable gearbox for \$30,000</p> <p>Total cost \$40,867.44</p> <p><b>Sept 29<sup>th</sup> CASS meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        | 09/29/20 | Closed 09/29/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
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| <p><b>202014 06/09/2020 N306MH</b></p> <p>About 0800, pilot was preparing to take passengers to Sharaton Mountain. On first attempt, after rolling the collective to induce fuel, the engine failed to light off. Start was aborted and pilot waited 60 seconds. On the second start attempt, TOT rose rapidly after fuel introduction. After noting rapid TOT rise, the pilot aborted the start again. After waiting the 60 seconds to try the third start, engine appeared to start normally with steady TOT rise. Only apparent discrepancy was that the first "peak" was close to 829 TOT and then the second peak was in the 10 second window. Second peak was around 850. TOT was dropping and beginning to stabilize when the TOT light came on after exceeding 10 seconds above 768. Flight was aborted.</p> <p><b>(maintenance comments missing)</b></p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>Sept 29<sup>th</sup> CASS meeting awaiting maintenance comments.</b></p> <p><i>06/09/20 Insp OCC and liner, no defects. Performed TOT system ops check. No defects. Performed igniter insp. No defects. Performed ground run and leak checks. No defects</i></p> <p><b>Jan 21<sup>st</sup> CASS meeting closed this item.</b></p> | Isaac Mackey | Steve Slade        | 09/29/20 | Closed<br>01/21/21 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>Transmission replacement 06/13/2020 N312MH</b></p> <p>XMSN chip light illuminated while advancing throttle to 100% RRPM. Pilot contacted the Chief Pilot and Lead Mechanic. All three xmsn chip detectors were removed, cleaned, and reinstalled. One small hair like particle was found on the lower xmsn chip detector. After reinstallation, the leak check was performed. No leaks were noted so 20 minute "penalty run" was performed and the chip did not illuminate again.</p> <p><b>07/12/2020</b> XMSN Chip light illuminated while in cruise flight at 75% torque. Pilot reversed course and then the light went out. Aircraft was returned to Fairbanks, Metro field without further chip lights</p> <p>Drained transmission oil replaced oil filter w/serviceable new. Serviced with 555 oil, 20 minute found run, no recurring chips</p> <p><b>07/19/2020</b> Transmission chip light illuminated during cruse flight. Pilot notified security and returned to PS9. Removed 3 each transmission chip detectors, lower chip detector had sliver that was longer than 1/8in. reinstalled chip detectors and performed 20 min penalty run. Flew aircraft back to Fairbanks. Aircraft grounded and transmission replaced with serviceable unit. Aircraft returned to service.</p> <p><b>July 30th CASS Meeting moved this to an open item. Awaiting teardown reports.</b></p> <p>Transmission overhauled and lower bearing replaced for being rough, lower support replaced for liner worn. Total cost \$11,330</p> <p><b>Sept 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey |                    | 09/29/20 | Closed 09/29/20 |
| <p><b>07/13/2020 N600MH</b></p> <p>Fuel indicator for the non-installed wing tip tanks indicated erratically. Have warranty fuel conditioner on hand for replacement. Issue has not happened again. Aircraft returned to service.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>07Fuel conditioner from Viking was sent up on warranty but not used.</p> <p>Replacement conditioner installed. No defects noted.</p> <p><b>Sept 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Isaac Mackey |                    |          | Closed 09/29/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>07/13/2020 N600MH</b></p> <p>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.</p> <p><b>July 30th CASS Meeting moved this to an open item.</b></p> <p>Pursuing remediation for system. More to follow</p> <p><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b></p> <p><b>01/21/21</b> Software update in progress. Viking has approved current operation until the update is released.</p>                                                                                                                                                                                                                                                             | Isaac Mackey | Mark Hedlund       | 11/19/20 | Open            |
| <p><b>07/20/2020 Bell 407 312MH</b></p> <p>During 312MH XMSN change the mechanic noticed compressor damage possibly due to FOD. Mechanics then blended out the damage and after blending, the damage was within limits. Possible FOD damage from bypass doors opening was suspected.</p> <p><b>Sept 29<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>A new policy will be put in place requiring the pilot to notify maintenance any time the bypass door is opened via logbook entry and FIR. Maintenance will perform the required compressor inspection. This policy will be put forth via CAS memo for distribution.</p> <p>09/29/20 CAS Memo issued to put new police into effect.</p> <p><b>Jan 21<sup>st</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Dave Jones         | 01/21/21 | Closed 01/21/21 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>09/01/20 Bell 206L3 N305MH</b></p> <p>First start of the afternoon was aborted due to high TOT. On second attempt, the first "spike" peaked at or equal to 850 degrees. Second peak hit the red dot (927) for less than one second.</p> <p><b>09/29/20</b> Missing maintenance comments</p> <p><b>01/20/21</b> After a successful hot section inspection the aircraft was returned to service.</p> <p><b>Sept 29th CASS moved this to an open item.</b></p> <p><b>01/20/21</b> Pilots continued to report high TOT start issues. After contacting Rolls Royce it was determined to be two separate issues. After replacing the starter and the fuel control the start sequence was within manufacturers specifications. Aircraft returned to service</p> <p><b>Jan 21<sup>st</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Steve Slade        | 01/21/21 | Closed 01/21/21 |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
| <b>FIR: 202032 Generator</b>              | <p><b>10/03/2020 Twin Otter N600MH</b></p> <p>Right Generator would not stay online after engine start at PAAD. The excitation field appeared to be working with 28.7 volts during with reset held for 3 seconds but when the switch was released the voltage would drop to approximately 3.7 volts and the Right Generator Off CAS message remained on. Left generator would reset (excitation voltage was 28.7 volts) and came online normally. This has happened on 3-4 other occasions with two other crews but the generator able to be brought online by either shutting down the engine and restarting or by charging the battery below 30 amps and then resetting the right generator with the left generator off. One restart was attempted at PAAD but the generator would not reset and stay online. The right generator was deferred IAW the MEL and we returned VFR to PASC per the MEL restrictions.</p> <p>A round trip revenue flight from PAAD to PAFA was canceled due to this discrepancy.</p> | Closed 01/21/21           |                    |

| Notable A/C items since last CASS meeting  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
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| Item                                       | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items | Responsible Person |
| <b>GOR: 202016 Elevator Horn Assembly</b>  | <p><b>10/06/2020 Bell 412 N330MH</b></p> <p>During the A0604- 600hr/12mo inspection of the Aerodynamically actuated elevator assembly, mechanic was cleaning up the minor corrosion found on the LH and RH elevators and applied a layer of primer to the elevators IAW BH412 CR&amp;O CH 67 para 67-52. When reinstalling the LH elevator into the elevator horn assembly, the mechanic realized he had applied to thick of a layer of primer to the elevator, and upon inserting the elevator into the horn assembly, the elevator got stuck about 2 inches into the horn assembly. When removing the stuck elevator from the horn assembly, it created a gouge that was greater than 0.0015 inch deep maximum allowable damage to the inside bore of the elevator horn assembly. When applying primer to the elevators, make sure you do not use a paint brush. It applies to thick a coat of primer. Instead use a paint gun to apply a thin layer of primer to the elevator. The fit for the elevator into the horn assembly is a very close tolerance and any added thickness to the elevator could cause damage to the horn and elevator assemblies.</p> <p>Replacement horn cost \$6613.85</p> | Closed<br>01/21/21        |                    |
| <b>GOR: 202015 Poor Light off at Start</b> | <p><b>10/08/2020 Bell206L3 N304MH</b></p> <p>At the end of the annual aircraft inspection, while performing the fuel system maintenance check and initial ground run, the Engine light off was poor. Pilot described it as "mushy" with a very slow temperature increase and fuel was expelled out of the burner drain valve. Removed Fuel nozzle and observed that it was improperly cleaned. There was carbon buildup on the nozzle tip and its mirror finish was not present. Mechanic cleaned the fuel nozzle and reinstalled IAW RR 250-L30P MM.</p> <p>Second start was within limits.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Closed<br>01/21/21        |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>FIR 202033<br/>CAS Messages</b>        | <p><b>10/08/2020 Twin Otter N600MH</b></p> <p>2 flights scheduled from PASC-PAAD to move approx. 4000lbs of groceries and pickup one passenger from PAAD. Arrived at the hangar at approx. 0745. Applied external power to Aircraft and did morning cockpit preflight. Avionics was working well with no anomalies. About 45 minutes later after finishing the aircraft loading, the aircraft was ready to be moved outside when the avionics began showing multiple CAS Messages and display failures. Mechanic was unable to fix problems without further troubleshooting so aircraft was left in side and the flight, cancelled. Notified PAAD tower operator. No further flights were on this date.</p> <p>Repaired faulty in #2 NIC Backshell that connects personality module (MAU Config Module) to NIC. No further Defects Noted. Aircraft returned to service</p>                                                                 | Closed<br>01/21/21        |                    |
| <b>FIR 202034<br/>Engine Chip Light</b>   | <p><b>10/09/2020 Bell407 N319MH</b></p> <p>On the first start of the day with first Pipeline surveillance customer, pilot noted the Engine Chip Light illuminated at 35% NG. Start was aborted and maintenance was notified.</p> <p>Removed and inspected both Chip detectors. Found metal flakes on both detectors in excess of limitations per RR-250-C47B operations and maintenance Manual. Removed engine and replaced with new serviceable engine. Aircraft returned to service.</p> <p><b>10/19/20</b> Compressor, turbine and gearbox was returned to Airborne for evaluation</p> <p><b>11/12/20</b> gearbox (CAG-47283) returned after inspection. No defects noted. Cost \$1442.30</p> <p><b>11/12/20</b> turbine (CAT-44908) returned after inspection. No defects noted. Cost \$864.51</p> <p><b>01/14/21</b> Compressor (CAC-45246) returned after inspection. #2 bearing and spur adapter were replaced. Cost \$11073.45</p> | Closed<br>01/21/21        |                    |

| Notable A/C items since last CASS meeting         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |                    |
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| Item                                              | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Move to open action items | Responsible Person |
| <b>GOR: 202017 Oil Scupper Line</b>               | <p><b>10/26/2020 B407 N308MH</b></p> <p>During a daily inspection, it was found that the Engine Oil Reservoir Scupper drain line was disconnected and hanging over, but not contacting driveshaft. It wasn't certain how or when the line was disconnected.</p> <p>Reconnected light and tightened. Checked drive shaft for damage with none found. Aircraft returned to service.</p>                                                                                                                                          | Closed<br>01/21/21        |                    |
| <b>GOR: 202018 Nitrogen Inadvertent Discharge</b> | <p><b>10/29/2020 Bell 407 N408AL</b></p> <p>Performed with on Apical Float System and disconnected float cable from bottle instead of from junction box causing inadvertent bottle discharge.</p> <p>Float system was being removed at the time of the event so the bottle was not refilled with N2. Continued with removal of float system.</p> <p>Chief Inspector gave class on working with this particular float system and the dangers of inadvertent bottle discharge. Emphases on reading the manual during a task.</p> | Closed<br>01/21/21        |                    |
| <b>FIR: 202035 Transmission Oil Warning Light</b> | <p><b>10/29/2020 Bell 407 N312MH</b></p> <p>Transmission oil pressure warning light INOP at PS4. Noticed that the ring terminal on the transmission pressure switch was crimped poorly and may have led to not seeing any continuity at the wire. Replaced ring terminal, turned on power and had the warning light illuminate. Ops check good on ground run. Aircraft returned to service.</p>                                                                                                                                | Closed<br>01/21/21        |                    |

| Notable A/C items since last CASS meeting    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                    |
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| Item                                         | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Move to open action items | Responsible Person |
| <b>FIR: 202036<br/>Engine<br/>overtorque</b> | <p><b>12/04/2020 B206L1, N315MH</b></p> <p>Pilot was flying two passengers from Seward airport to Rugged Island. Winds were strong, but not unreasonable. Approaching the island there was a strong updraft on the north side and a corresponding downdraft on the south. Pilot flew a shallow to level approach from the Northwest, staying in the updraft where the air was smooth. In the final portion of the approach, about 75' AGL and approximately 200' laterally from the landing pad, the helicopter began to sink in a downdraft. Pilot tried to check the descent with collective, but that was ineffective. At this point the pilot departed for his escape route off the back of the island. To ensure clearance from the terrain and brush, extra power was pulled and the pilot noted the torque spike of 118% for 1 second. The flight was aborted.</p> <p>Completed over torque inspection IAW BHT 206 L1 MM and Rolls Royce 250-C30P MM. No defects were noted during the inspection. The aircraft was returned to service and moved to its home base the next day.</p> | Closed<br>01/21/21        |                    |
| <b>GOR: 202019<br/>Mast Damage</b>           | <p><b>12/14/2020 Bell 407 N407PA</b></p> <p>During 12 month mast inspection, damage was found that was felt by fingernail on the upper cone seat. Mast Assembly was taken to the overhaul shop where technician inspected mast assembly with high powered microscope. Damage was found to be a crack.</p> <p>Removed Mast Assembly from service and awaiting warranty repair from Bell.</p> <p>Once in the overhaul shop the damage was determined to not be a crack but fretting on the upper cone seat.</p> <p><b>01/19/21</b> Still waiting for repair information from PSE.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Open<br>01/21/21          |                    |
| <b>Compressor<br/>cracked</b>                | <p><b>12/17/20 Bell 407 N312MH</b></p> <p><b>01/21/21</b> Still missing FIR from Dennis</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Open                      |                    |

| Notable A/C items since last CASS meeting    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                    |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                         | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Move to open action items | Responsible Person |
| <b>GOR: 2020/20 Vehicle Fire</b>             | <p><b>12/22/2020 Chevy 2500 Pickup (JKV 668)</b></p> <p>On 22 December, one of the Maritime fleet vehicles was completely consumed by fire with the following details: At approximately 2030 hrs, a passerby noticed a fire at the small hangar at Maritime and called 911. The fire department from university fire responded and managed the fire as well as notified the one mechanic staying in the company transient apartment about the fire. The Chief Inspector/Maintenance Lead was notified and arrived at the hangar a short time later. The vehicle was extinguished at approximately 2300 hours and the fire department was finished checking the hangar for safety and left about 2330 hours. Initial indications by the fire department were that the fire had started in the engine compartment.</p> | Closed<br>01/21/21        |                    |
| <b>FIR: 202037 Fuel Quantity Indications</b> | <p><b>12/23/2020 Bell 206 L4 N314MH</b></p> <p>During Runup after refuel, the aircraft FUEL QTY Gauge began to oscillate and intermittently fail to zero indication.</p> <p>Removed and Replaced fuel quantity transmitter/probe. Completed calibration checks. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Closed<br>01/21/21        |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                                                             |
|---------------------------------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list                                    |
| CAN 20-01 – AD2020-02-11 – 412 inverters                                                    |
| CAN 20-02 – SB 119-098 – collective tube                                                    |
| CAN 20-03 – ASB412-20-180 – Tailboom left hand fin spar, inspection of                      |
| CAN 20-04 – ASB412-20-181 – Main rotor expandable blade bolt, inspection of                 |
| CAN 20-05 – SB119-105A – Verify proper tail rotor installation                              |
| CAN 20-06 – AD2020-12-10 – 412 tail rotor blades                                            |
| CAN 20-07 – AD2020-13-02 – Verify proper tail rotor installation                            |
| CAN 20-08 – ASBBO105-40-108 – Pilot and Copilot collective guards                           |
| CAN 20-09 – ASB206L-20-184 – Tail rotor drive shaft, inspection of                          |
| CAN 20-10 – AD2020-15-16 – Tail rotor blade bolts, reduction of life                        |
| CAN 20-11 – AD2020-16-10 – Seat belt clip, removal of                                       |
| CAN 20-12 – ASB206L-20-184RA – Tail rotor drive shaft, inspection of                        |
| CAN 20-13 – ASB407-11-95RD – Tail boom upper longeron assy 407-030-067-105, interdiction of |
| CAN 20-14 – AD2020-18-05 – AW119 FCU stainless steel adapter                                |
| CAN 20-15 – AD2020-19-11 – AW119 TGB, inspection of                                         |

|                                                                      |
|----------------------------------------------------------------------|
| CAN 20-16 – AD2020-21-21 – AW119 M/R floating ring, inspection of    |
| CAN 20-17 – ASB206L-20-184RB – Tail rotor drive shaft, inspection of |
| CAN 20-18 – AD2020-22-07 – 412 RFM update                            |
| CAN 20-19 – ASB206L-20-185 – main rotor blade, inspection of         |
| CAN 20-20 – ASB412-20-183 – inspect fuel check valves                |
| CAN 20-21 – ASB412-20-183RA – inspect fuel check valves              |
| CAN 20-22 – AD2020-26-10 -                                           |
| CAS Memo M-20-03 – MHI GMM Rev 7                                     |
| CAS Memo O-20-01 – ICS cords and headsets                            |
|                                                                      |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2020                                                   |
|------------------------------------------------------------------|
| 1. N320MH – 03/10/20 – MTF – Engine overspeed                    |
| 2. N320MH – 03/30/20 – MTF – Fuel control                        |
| 3. N326MH – 04/22/20 – VDZ – G/B chip light                      |
| 4. N312MH – 05/20/20 – MTF – Oil shaft and housing               |
| 5. N306MH – 06/09/20 – Kenia – Engine overtemp on start          |
| 6. N328MH – 07/13/20 – Deadhorse – Lower bridge damper           |
| 7. N312MH – 07/20/20 – MTF – Transmission chip light/Replacement |
| 8. N319MH – 08/08/20 – GRB – Transmission chip light/Replacement |
| 9. N330MH – 08/24/20 – Deadhorse – Transmission oil leak         |
| 10. N305MH – 09/01/20 – Akutan – Overtemp on start               |
| 11. N315MH – 09/08/20 – HOM – Overtemp on start                  |
| 12. N600MH – 09/11/20 – Deadhorse – De-ice valve                 |
| 13. N600MH – 09/24/20 – Deadhorse – Network interface card       |
| 14. N319MH – 10/09/20 – GRB – Engine chip                        |
| 15. N312MH – 10/29/20 – PS4 – transmission pressure switch       |
| 16. N315MH – 12/04/20 – Seaward – Engine overtorque              |
| 17. N312MH – 12/17/20 – PS4 – crack on compressor scroll         |
| 18. N314MH – 12/23/20 – PS5 – fuel transmitter issue             |
| 19. N600MH – 12/27/20 – Deadhorse – Fuel nozzle leak             |
| 20. N600MH – 01/03/21 – Deadhorse – Fuel nozzle leak             |

| AOG's for 2019 by Location |   |
|----------------------------|---|
| PS4                        | 2 |
| PS5                        | 1 |
| MTF                        | 4 |
| GRB                        | 2 |
| Tonsina                    |   |
| VDZ                        | 1 |
| HOM                        | 2 |
| Kodiak                     | 1 |
| Akutan                     | 1 |
| Kenia                      |   |
| Coldfoot                   |   |
| Deadhorse                  | 6 |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Repeat Finding: Tool Control:</b> Tool control is still an issue in Fairbanks hanger for maritime helicopters. Maritime is not following their own policy on consumable items as they were present and toolboxes and on accounted for in personal drawers.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters mechanics are following documented company tool control policy to include specific areas such as consumables in tool boxes to meet the intent of AOG guidelines section 4.4.9.</p> | <p>There is a very mature tool control program at Maritime. The GMM prescribes the on-shift and off-shift inventories which are being accomplished by mechanics and also spot checked by maintenance leads and Q&amp;S. One consumable item to which there was some confusion was spools of aircraft safety wire. This is being allowed into tool boxes in a shadowed position as with other tools. Photos evidences of daily inventories, shadow boxing and actual tool drawers attached as exhibits 1905201H (#1-#5). Disagree with this as a high risk item. Maritime has had only one FOD incident in five years which involved a customer having access to the aircraft and leaving a rag on the aircraft.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p> |
| <p><b>Repeat Finding: FOD control.</b> During walkthrough of the Maritime Helicopters maintenance facility it was noted that FOD was present in company tool boxes, and does not meet the expectations of ExxonMobil Aviation Services for FOD control as outlined in the AOG paragraph 4.4.10.</p> <p><b>Recommendation:</b> Ensure that FOD programs meet the intent of the ExxonMobil AOG section 4.4.10.</p>                                                                                                   | <p>Spot checks are ongoing. CAS Memo produced and attached as exhibit 190502H #1 regarding FOD Program Promotion.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Finding: Incident and Hazard Reporting.</b> During the review of the Safety Management System (SMS) program for Maritime Helicopters, the answers provided to the Advisors' questions indicated that the incident and hazard reporting system is not effective, and is not being tracked in the Maritime Helicopters SMS system.</p> <p><b>Recommendation:</b> Work to further refine the incident and hazard reporting program and begin tracking and trending of reports. This can be done by the use of safety promotion, training, and increasing the general understanding level of the SMS as a whole.</p> | <p>Not certain about the comment here. Enclosed are exhibits 190501 (#1-#3). The Flight Irregularity Report and the Ground Occurrence Reports have good participation and tracking from the initial incident through management review at the quarterly Continuing Aviation Surveillance System Meetings' Safety Review. FIRs and GORs are also distributed to the workforce in the form of the quarterly safety notes as part of Continuous Improvement and Safety Promotion</p> <p><b>Closed 05/15/20</b></p> |
| <p><b>Finding: Publication Control.</b> While conducting aircraft hangar inspection in Fairbanks, Alaska it was noted that printed publications were present in aircraft tool boxes which is against Maritime Helicopters publications control policy.</p> <p><b>Recommendation:</b> Ensure that the policy is being followed as written, and copied publications are not present in tool boxes.</p>                                                                                                                                                                                                                   | <p>There was a single evidence of a mechanic whom had printed a page from the Bell manual to accomplish a task and then not destroyed the copy. GMM reference changed to include the printing of "uncontrolled copy" footer on all technical manual reproduction. Exhibit 190503M #1</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                          |
| <p><b>Finding: Aircraft Logbooks.</b> During review of aircraft logbooks it was noted that aircrew preflight signature acceptance documentation was missing.</p> <p><b>Recommendation:</b> Ensure that pilots are following logbook documentation procedures for acceptance of aircraft regarding pre-flight.</p>                                                                                                                                                                                                                                                                                                      | <p>CAS Memo attached to stress completion of records and will also include the system for changing errors made in aircraft logbooks associated with finding 190505L<br/>Exhibit 190505M #</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                                     |
| <p><b>Finding: Emergency Response Plan.</b> During review of the Maritime Helicopters emergency response plan program it was noted that expectations do not meet ExxonMobil AOG 10.2.1 guidelines. There was no documentation on drills, and how they manage the deficiencies noted during drills.</p> <p><b>Recommendation:</b> Ensure that the emergency response plan drill deficiencies are identified, and assigned to personnel for rectification with target dates for completion.</p>                                                                                                                          | <p>Discussed the ERP addition to the iAuditor program. (Exhibit 190506M #1). It was also discussed that ERP has been added to the Safety Portion of the Quarterly CASS Meeting with the complete Safety Committee attending. Management participation in ERP has been positive and ERP will be added to regular audit schedule. ERP is still discuss at all indoctrination Training and (now) annual instead of biannual safety training</p> <p><b>Recent audit Exxon witnessed ERP, satisfied.</b></p>         |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Corrective action                                                                                                                                                                                                                                                                                                                |
| <p><b>Finding: Audit Plan.</b> During a review of the Maritime Helicopters quality assurance program it was identified that no annual audit plan exists, and no tracking of audits was available.</p> <p><b>Recommendation:</b> Create an annual audit plan, and tracking system to ensure scheduled audits are completed on an annual basis.</p>                                                                                                                                         | <p>Audit plan has always existed and <i>was previously</i> more focused on a manual system with results entered into an Excel format. Now, with iAuditor (discussed with Aviation Advisor and on the <i>suggestion</i> of the aviation advisor) the audit plan is stored in iAuditor. Exhibit 190507 #1</p> <p><b>Closed</b></p> |
| <p><b>Finding: Risk Register.</b> During review of the Maritime Helicopters quality management program it was noted that there was no audit feedback to the risk register to identify new risks in the Maritime Helicopters operation.</p> <p><b>Recommendation:</b> Ensure that the audit function has a tie back to the risk register to ensure risk identification and risk mitigation for the quality management system that meets the intent of the ExxonMobil AOG section 2.0.3</p> | <p>Finding Under Review. Having added the Safety Review portion to the quarterly CASS meeting. The “management involvement and feedback” is being accomplished.</p> <p><b>Closed</b></p>                                                                                                                                         |
| <p><b>Finding: Shelf Life Control.</b> During a review of the Maritime Helicopters spares department items were identified that were past shelf life, and did not match dates being tracked in the stores control system.</p> <p><b>Recommendation:</b> Ensure that all items entered into the stores control system are entered accurately, and match shelf life dates on parts that are on the shelves.</p>                                                                             | <p>There was a single item that was transcribed into the CALM program improperly. It was not expired during the audit visit and the monthly, shelf life item inventory would have caught the mistake. Exhibit 190501L #</p> <p><b>Closed from previous audit.</b></p>                                                            |
| <p><b>Finding: SMS training.</b> During the review of the SMS program it was noted that SMS training is accomplished every two years. Given the findings concerning incident and hazard reporting, the Advisor felt training on the Maritime Helicopters SMS could be stronger.</p> <p><b>Recommendation:</b> Conduct SMS training annually.</p>                                                                                                                                          | <p>Quality &amp; Safety has added SMS training on annual basis</p> <p><b>Closed</b></p>                                                                                                                                                                                                                                          |
| <p><b>Finding: Stabilized Approach.</b> During a review of the Maritime Helicopters operations manual it was noted that the stabilized approach rate of decent exceeds the AOG allowable of 750 ft. /min.</p> <p><b>Recommendation:</b> Ensure that the Maritime Helicopters operations manual notes that if a rate of decent exceeds the AOG maximum, that a verbal briefing is conducted to meet the intent of the ExxonMobil AOG section 6.11.3.d.</p>                                 | <p>The Maritime SOP has been revise to reflect the policy of AOG’s 750 ft./min rate of descent for stabilized approaches Exhibit 190503L #1 (2 Pages)</p>                                                                                                                                                                        |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                             | Corrective action                                                                                                                                                                                                                                                                                                 |
| <p><b>Finding: PED Policy.</b> During a review of the Maritime Helicopters operations manual it was noted that there is no personal electronic device policy.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters creates a personal electronic device policy, and inserts it into the current operations manual to meet the expectations of the AOG section 6.11.6.</p> | <p>Maritime SOP Changed to include a more AOG compliant policy regarding Personal Electronic Devices. Exhibit 190504L #1</p> <p><b>Closed</b></p>                                                                                                                                                                 |
| <p><b>Finding: Dangerous Goods Storage.</b> During a review of the Maritime Helicopters spares department it was noted that dangerous good items are not segregated on the shelves from standard spares.</p> <p><b>Recommendation:</b> Ensure that all dangerous goods items are segregated in a dangerous goods area in the store room.</p>                                        | <p>Dangerous Good Categorization is for shipping of items aboard aircraft under IATA. The flares in question were in their original packaging and stored IAW the SDS. (190509L #1). Flares have been moved to a military style ammunition can on the insistence of the aviation advisor.</p> <p><b>Closed</b></p> |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System    | Evidence                                                                                                                                                                                                         | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old | Probably need to do an exercise with the Koala/B412 primary/backup---self supported ERP up at OSI?                                                                                                               | Shortened Koala season. Only tabletop discussions. Tabled until Spring 2021<br>.                                                                                                                                                                                                                                                                                                                   |
| New                         | <p>Twin Otter ERP on 15 July<br/>Emergency Response Exercises added to iAuditor. Twin Otter was test bed</p> <p>Current Pocket Checklist is Version 24 (blue) still working site specific EPC for Twin Otter</p> | <p>Need to shore up relationship on services for Emergency Response at Point T. Towbar? Placed in iAuditor for follow on. Towbar complete at PAAD as of August<br/>Work with Mark H. on Follow up/corrective actions. Do not close audit until DOO approves closure</p> <p>Scott F. had a version. Just need to finalize Prudhoe version. Check on new version at 9/29 CASS</p> <p>In progress</p> |

| Safety Management System             | Evidence                                                                                                      | Effectiveness                                                               |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
|                                      | Discussed new version Conoco Phillips to incorporate CP difference and restructure                            |                                                                             |
| Station Checklists-Audit Program-OLD | COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions. | Schedule Alyeska Audits when able. Kodiak audit scheduled the week of 8 OCT |
|                                      | Homer Base Audit                                                                                              | TBD                                                                         |
|                                      | Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items                          | Audit has spill kits included now.                                          |
| NEW                                  | Need to create plan for Fuel Audits in Larry A's absence                                                      | Discussion                                                                  |

| Safety Management System         |     | Evidence                                                                                        | Effectiveness                                                                                                                                             |
|----------------------------------|-----|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management of Change             | OLD | AW119 & NVGs Closed out? One year Review?                                                       | Work Need Status update from Steve?<br>Aircraft already working, ask Steve to just review effectiveness of MoC?                                           |
|                                  |     | Other new Aircraft/Systems?                                                                     | MoC for NVG operations started by D. Jones (review/complete?)                                                                                             |
|                                  |     | FOQA/FDM/HFDM- This is first month of FOQA review at CASS mtg to close out Exxon audit finding/ | Will need program development for Exxon                                                                                                                   |
|                                  | NEW | ConocoPhillips needs an example of MOC for the bid/tender process                               | Discussion                                                                                                                                                |
|                                  |     | MOC for HFDM for Conoco aircraft for next summer? B407x2?                                       | Discussion                                                                                                                                                |
| Overall Safety Effectiveness-OLD |     | Incident Reporting improved this quarter                                                        | Effectiveness<br>Lots of FIRs and GORs. Great job in reporting.                                                                                           |
|                                  |     |                                                                                                 | Incorporating FIR/GOR database with rotary wing or start new Access Database?                                                                             |
|                                  |     | Exxon holding two week meetings, many items closed out                                          | From Mark O. "Now awaiting amended ASRAP from C. Ross." Many items closed out. Still need to work on a few DOM issues. (toolbox talk topics for the year. |
|                                  |     | Not getting a lot of feedback from toolbox talks or written documentation. Now on EXXON audit   | Keep stressing Toolbox talks! (need a hard and fast policy from DOM)                                                                                      |
|                                  |     |                                                                                                 | Need Fire Drill at Homer.                                                                                                                                 |

| Safety Management System | Evidence                                                                                                                                                                                                                                 | Effectiveness                                                                                                                                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p>Safety Awareness/Training: Alyeska &amp; Exxon requiring certain safety subjects on Elite/OSHA/Flight Safety topics.</p> <p>QA/QC training for EXXON was proposed for Mackey...Thought of using Six Sigma online through Aveta U.</p> | <p>SMS Training to be added annual instead of biannual (already done for Alyeska)</p> <p>Annual SMS training successful with Alyeska personnel. Add Homer when able.</p> <p>Added ThinkHR to Safety Training and that program is continuing pretty well. Exxon accepting that for Safety Training. Great job by Tiffany!</p> |
|                          |                                                                                                                                                                                                                                          | Mackey has the white belt six sigma and working on the green                                                                                                                                                                                                                                                                 |
|                          | <p>SMS Policy all signed by leadership Team?</p> <p>Look into Emergency Response Coordination Team contract (Kenyon) for Conoco Contract &amp; others</p>                                                                                | <p>In progress</p> <p>Would be placed in ERP Manual if approved. Emails from Kenyon being exchanged now.</p>                                                                                                                                                                                                                 |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation.</p> |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 03/18/21 |
|---------------------------------|----------|



**Maritime Helicopters**

# CASS

Continued Airworthiness Surveillance System

Sept 2020  
Meeting minutes

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 09/29/20 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                                           |
|--------------------------|---------------------------------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey                                                              |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                                              |
| <b>FACILITATOR</b>       | Isaac Mackey                                                              |
| <b>ATTENDEES</b>         | Bob Fell, Dave Jones, Dennis Busch, Steve Slade, Dave Buzga, Mark Hedlund |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|--------------------|
| <p><b>N330MH FM Radio issue added by July 18th CASS meeting</b></p> <p><b>07/06/19 ACTT 7071.1</b><br/>TDFM-136A FM Radio Displays main RF module Fail. Removed TDFM-136A And Replaced with serviceable TDFM-136B IAW Technisonic Ops check good aircraft returned to service.</p> <p><b>07/16/18</b> Teardown report on TDFM-136A confirmed bad module. Spoke with Radio masters tech about cause, determined to be a weak part of the radio and subject to failure.</p> <p><b>07/08/19 ACTT 7085.8</b><br/>TDFM-136B FM Radio display will not show frequencies on display. Removed and replaced TDFM-136B With serviceable NPX-138D. Ops check good aircraft returned to service.</p> <p><b>07/18/19 Waiting on teardown report</b></p> <p><b>07/16/19 ACTT 7099.5</b><br/>NPX-138D FM radio indicates “module Comm error”. Removed NPX-138D and installed serviceable TDFM-136A. Ops check good aircraft returned to service. (installed same TDFM that was removed 07/06/19)</p> <p><b>Dec 31<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>Mar 25<sup>th</sup> CASS Meeting left this an open item.</b><br/>Not enough flight time to verify problem</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b><br/>As of 7/28/20 the aircraft has flown 150hrs without another FM issue or radio replacement. No further action required.</p> | Isaac Mackey | Seth Harper        | TBD      | Closed<br>07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>FIR Overtemp N315MH 1/30/2020</b></p> <p>Start Temperature (time) exceedance of over 10 seconds above 768 degrees. Flight was aborted.</p> <p><b>(no maintenance comments)</b></p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>FIR provided March 26th:</b> On first start up solo, first time in N315MH aircraft, I introduced fuel at 12% with similar crack of throttle as I had previously been used to in other aircraft. Temp peaked at 860C and was coming down nearing 768 when the TOT light came on. At the time I had not believed it would be a 10 second exceedance, so had not rolled the throttle down. I proceeded to shut down the helicopter and called the Homer office. I discussed with Brent and Bob, and was told to abort the flight. Maintenance was dispatched to Kenia to evaluate. Dave Jones also called and discussed that every aircraft is different and possibly this one starts hotter. Maintenance discovered an intermittently faulty TOT gauge and a starter in need of replacement. These items were replaced in the aircraft. I assisted in the leak check and flight of N315MH the next day with the mechanic.</p> <p>Maintenance: Performed TOT system calibration check. Found gauge was out of limits. Replaced Gauge. Performed hot end inspection, found burner can liner to be warped and cracked beyond limits. Replaced liner. During battery/starter performance check, starter made screeching noises when operated. Replaced starter.</p> <p>Starter was just over 100hrs TBO when removed. Evaluation came back with several internal parts worn.</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        |          | Closed 07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|----------|-----------------|
| <p><b>Eng Chip light N304MH 02/07/2020</b></p> <p>During downwind leg to the second landing site, the engine chip light illuminated. Pilot aborted the planned approach to the confined area</p> <p><b>(no maintenance comments)</b></p> <p><b>March 25<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting left this as an open item.</b></p> <p><b>07/31/20</b> <i>Received maintenance comments.</i><br/> <i>Engine chip light</i><br/> 06-29-19 at ACTT 12192.9<br/> 08-30-19 at ACTT 12269.3<br/> 12-13-19 at ACTT 12338.5<br/> 02-10-20 at ACTT 12346.1</p> <p><b>02/13/20</b> <i>Replaced turbine, compressor and gearbox due to multiple chip lights in the last 150hrs. Airborne Engines gearbox teardown report confirms the source of the chip lights.</i></p> <p><b>02/13/20</b> Turbine time continued repair for \$5680.72 and compressor inspection for \$5186.72</p> <p><b>03/03/20</b> Airborne engines Gearbox quote for \$72,046.06</p> <p><b>03/05/20</b> Purchase serviceable gearbox for \$30,000</p> <p>Total cost \$40,867.44</p> <p><b>Sept 29<sup>th</sup> CASS meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        | 09/29/20 | Closed 09/29/20 |
| <p><b>GOR Tail rotor drive hardware N309MH 03/06/2020</b></p> <p>During the Maintenance Torque check on the Tail Rotor Drive hardware, two bolts on the aft, short shaft were found to be snug but not torqued. They were not loose, but they had no discernable torque. Also, no torque stripe had been was applied to all eight bolts of short shaft.</p> <p>Retorqued all bolts on aft, short shaft to max torque. Applied torque stripe and transferred to logbook retorquer requirements IAW BHT 407 MM. Also, removed and replaced affected bolts with new bolts.</p> <p><b>March 25<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Isaac Mackey | Brent Estep        |          | Closed 07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
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| <p><b>Tail rotor strike      N304MH 3/09/2020</b></p> <p>Tail Rotor Strike in Alders (confined area ops.) Around 2:30pm recon of confined area, 150' trees, 60' diameter LZ, power line running through one side. There was a 10-kt. wind from the northwest and pilot opted to descend into the confined area with the headwind instead of maximum LZ clearance. After descending into the LZ "hole" pilot could find only one suitable spot to land skids with uneven snow surface. Passenger offered to open the door and view tail rotor clearance for pilot. Passenger said that if the pilot moved three feet forward, the tail would be clear. Pilot felt the tail rotor strike in his pedals and the passenger said, "not good", never mind. Aircraft was returned to Homer.</p> <p><b>(maintenance comments missing)</b></p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>03/20/20</b> Performed inspections IAW Bell 206L3MM Para 5-54 Hub and tail rotor assy and both rotor blades were scrapped. Drive train removed and sent down to Aero Products. Total cost was \$86,861,16</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        |          | Closed<br>07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INITIATED BY    | RESPONSIBLE PERSON | DEADLINE | CLOSED            |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |
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| <p><b>Overspeed      N320MH ACTT 1979.4 03/10/2020</b></p> <p>Pilot Induced N2 High Side (112% for one sec). First run for tail rotor balance was being performed and the pilot was doing the fuel checks on run-up. Inadvertently lifted the Fuel Switch instead of the transfer switch. Dropping the cover (and opening the fuel switch back up) caused the overspeed</p> <p>Maintenance contacted PWC and verified the engine must be sent in for inspection. Due to the turnaround times and flying requirements an exchange engine was purchased. Install in progress</p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>03/30/20 Totals for the engine are as follows:</b></p> <table><tr><td>Engine Exchange</td><td>\$275000.00</td><td>9768F</td></tr><tr><td>Customs Clearance</td><td>\$696.26</td><td>Into the US</td></tr><tr><td>UPS</td><td>\$952.60</td><td>Shipping to MHI</td></tr><tr><td>Exchange Shipping</td><td>\$5037.59</td><td>FedEx Freight</td></tr><tr><td>Total</td><td>\$281,686.45</td><td></td></tr></table> <p>The total FedEx freight charge was extremely high due to the transportation cost of the engine across the border.</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Engine Exchange | \$275000.00        | 9768F    | Customs Clearance | \$696.26 | Into the US | UPS | \$952.60 | Shipping to MHI | Exchange Shipping | \$5037.59 | FedEx Freight | Total | \$281,686.45 |  | Isaac Mackey | Isaac Mackey | 07/30/20 | Closed 07/30/20 |
| Engine Exchange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \$275000.00     | 9768F              |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |
| Customs Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \$696.26        | Into the US        |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |
| UPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \$952.60        | Shipping to MHI    |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |
| Exchange Shipping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \$5037.59       | FedEx Freight      |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |
| Total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \$281,686.45    |                    |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |              |          |                 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
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| <p><b>202014 06/09/2020 N306MH</b></p> <p>About 0800, pilot was preparing to take passengers to Sharaton Mountain. On first attempt, after rolling the collective to induce fuel, the engine failed to light off. Start was aborted and pilot waited 60 seconds. On the second start attempt, TOT rose rapidly after fuel introduction. After noting rapid TOT rise, the pilot aborted the start again. After waiting the 60 seconds to try the third start, engine appeared to start normally with steady TOT rise. Only apparent discrepancy was that the first "peak" was close to 829 TOT and then the second peak was in the 10 second window. Second peak was around 850. TOT was dropping and beginning to stabilize when the TOT light came on after exceeding 10 seconds above 768. Flight was aborted.</p> <p><b>(maintenance comments missing)</b></p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>Sept 29<sup>th</sup> CASS meeting awaiting maintenance comments.</b></p> <p><i>06/09/20 Insp OCC and liner, no defects. Performed TOT system ops check. No defects. Performed igniter insp. No defects. Performed ground run and leak checks. No defects</i></p> | Isaac Mackey | Steve Slade        | 09/29/20 | Open   |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>Transmission replacement 06/13/2020 N312MH</b></p> <p>XMSN chip light illuminated while advancing throttle to 100% RRPM. Pilot contacted the Chief Pilot and Lead Mechanic. All three xmsn chip detectors were removed, cleaned, and reinstalled. One small hair like particle was found on the lower xmsn chip detector. After reinstallation, the leak check was performed. No leaks were noted so 20 minute "penalty run" was performed and the chip did not illuminate again.</p> <p><b>07/12/2020</b> XMSN Chip light illuminated while in cruise flight at 75% torque. Pilot reversed course and then the light went out. Aircraft was returned to Fairbanks, Metro field without further chip lights</p> <p>Drained transmission oil replaced oil filter w/serviceable new. Serviced with 555 oil, 20 minute found run, no recurring chips</p> <p><b>07/19/2020</b> Transmission chip light illuminated during cruse flight. Pilot notified security and returned to PS9. Removed 3 each transmission chip detectors, lower chip detector had sliver that was longer than 1/8in. reinstalled chip detectors and performed 20 min penalty run. Flew aircraft back to Fairbanks. Aircraft grounded and transmission replaced with serviceable unit. Aircraft returned to service.</p> <p><b>July 30th CASS Meeting moved this to an open item. Awaiting teardown reports.</b></p> <p>Transmission overhauled and lower bearing replaced for being rough, lower support replaced for liner worn. Total cost \$11,330</p> <p><b>Sept 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey |                    | 09/29/20 | Closed 09/29/20 |
| <p><b>07/13/2020 N600MH</b></p> <p>Fuel indicator for the non-installed wing tip tanks indicated erratically. Have warranty fuel conditioner on hand for replacement. Issue has not happened again. Aircraft returned to service.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>07Fuel conditioner from Viking was sent up on warranty but not used.</p> <p>Replacement conditioner installed. No defects noted.</p> <p><b>Sept 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Isaac Mackey |                    |          | Closed 09/29/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
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| <b>07/13/2020 N600MH</b><br><br>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.<br><br><b>July 30th CASS Meeting moved this to an open item.</b><br><br>Pursuing remediation for system. More to follow<br><br><b>Sept 29<sup>th</sup> CASS assigned this to Mark.</b> | Isaac Mackey | Mark Hedlund       | 11/19/20 | Open   |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
| <b>FIR: 202019 Transmission mounts</b>    | <b>7/15/20 Bell 412 N330MH</b><br><br>Started engines on Bell 412 for the first flight of the day checks. While performing #1 power check, RRPMS read 100%. Lateral vibrations started with corresponding loud "pops". Immediately shut down both engines. Informed customer aviation supervisor. Total delay was 2 hours and 15 minutes.<br><br>Inspected #1 and #2 power sections and drive drain. Performed borescope inspection of #1 Compressor section inlet plus bleed valve. No defects noted during borescope of inspection of power train and drivetrain. Performed ground run checks and no faults were noted.<br><br><b>90/29/20</b> Transmission mounts replaced.<br><br><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b> | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Move to open action items | Responsible Person |
| <b>FIR: 202023 Bird strike</b>            | <p><b>7/17/2020/1230 Bell 407 N407PA</b></p> <p>While enroute from Tonsina to Tsaina Repeaters, a small bird struck the passenger side window below the wire strike protection mount. Not noticing any immediate damages, the pilot continued to Tsaina Repeater (2-3 minutes). Upon shutdown the pilot performed a thorough visual inspection and found no damage to the aircraft. The passenger and mission was not compromised or delayed in any way. Performed thorough visual inspection of full airframe. Found impact mark on upper passenger windscreen. Debris in upper wire strike. Impact marks on Red PCL, Clevis bearing, Pitch horn and grip. Found debris in RED PCL bearing. Detached bearing from pitch horn for inspection and cleaning. Reinstalled &amp; greased IAW BH407MM. Found debris between lower plate and yoke near red pitch horn. Cleaned affected areas. No defects or damage found. No indication of engine ingestion. Aircraft deemed safe to return to service.</p> <p><b>Sept. 29th CASS Meeting closed this item.</b></p> | Closed                    |                    |
| <b>GOR: 202008 Compressor damage</b>      | <p><b>07/20/2020 Bell 407 312MH</b></p> <p>During 312MH XMSN change the mechanic noticed compressor damage possibly due to FOD. Mechanics then blended out the damage and after blending, the damage was within limits. Possible FOD damage from bypass doors opening was suspected.</p> <p><b>Sept 29<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>A new policy will be put in place requiring the pilot to notify maintenance any time the bypass door is opened via logbook entry and FIR. Maintenance will perform the required compressor inspection. This policy will be put forth via CAS memo for distribution.</p>                                                                                                                                                                                                                                                                                                                                                                                                                | Open                      | Dave Jones         |
| <b>GOR: 202010 IBF oil</b>                | <p><b>08/03/20 Bell407 N407RH</b></p> <p>Crew was inspecting aircraft prior to it leaving on a job in the Aleutians. AFS barrier filter appeared to be installed without being serviced with oil. Removed barrier filter and serviced with oil, IAW AFS-BH407-IBF-KIT-ICA pages 19-20</p> <p><b>Sept. 29th CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
| <b>FIR: 202022 Transmission</b>           | <p><b>08/06/20 Bell 407 N319MH</b></p> <p>After start-up for departure, pilot rolled throttle to 100% RRPM and the XMSN chip light came on. Pilot called the station mechanic (GRB). After discussion with Fairbanks Maintenance lead, pilot pulled the lower XMSN chip plug. Due to this being the third chip in a short amount of time. Pilot inspected, cleaned, and installed the plug. A very small sliver was on the bottom chip plug. Aircraft was run up for leak check, then was run up again for the 20-minute penalty run. After the penalty run with no issues, aircraft was flown back to GRB.</p> <p>Removed and inspected all three xmsn Chip plugs. No new chips. Removed and cleaned FWU restrictor fittings for precaution. Drained and reserviced transmission oil and flushed XMSN with fresh oil.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                         | Closed                    |                    |
| <b>FIR: 202027 Transmission</b>           | <p><b>08/08/20 B407 N319MH</b></p> <p>After 1.6 Flight hours from the previous Chip Light (8/6/2020), aircraft experienced another chip light in flight. After completing a pipeline start-up inspection flight, north of GRB, pilot was approaching GKN to go south when the XMSN chip light illuminated. Pilot set the aircraft down at the ramp at GKN and sent a message to the mechanic. Chief Pilot was also informed. Pulling the bottom chip plug, a notable sized chip was present. Pilot took photos and sent them to the Chief Pilot. A ferry permit was issued for the aircraft for the short flight back to GRB.</p> <p>Ferry Permit was issued. Transmission change scheduled and aircraft considered AOG with replacement aircraft from Fairbanks. Transmission was replaced on site at GRB. Ground runs complete and aircraft returned to service.</p> <p>The transmission was shipped to Aero Products for evaluation. This was a half-life transmission as well as an upgraded exchange and we received the bill back on 08/27/20 for a total of \$64,293.61</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |

| Notable A/C items since last CASS meeting  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                    |
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| Item                                       | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Move to open action items | Responsible Person |
| <b>GOR: 202012 LH Pylon damage</b>         | <p><b>08/15/20 Bell407 N319MH</b></p> <p>During the replacement of the transmission assy on aircraft N319MH, mechanic was removing the pylon beam assemblies from the old transmission to install on the new transmission, when he noticed damage on the lower surface of the LH Pylon Beam assy. Mechanic looked up the damage and repair limits IAW BH407 MM DMC-407-A-63-31-00-00A-280A-A, Fig. 6. From what was read in the MM the damage was beyond any field repair. Mechanic contacted the lead mechanic in Fairbanks, and notified him of what I had found and determined. A serviceable LH Pylon Beam Assy was sent down from Fairbanks, and the transmission change continued with no other issues.</p> <p>Removed damaged LH Pylon Beam Assy and replaced with serviceable LH Pylon Beam Assy IAW BH407 MM DMC-407-A-63-31-00-00A-720A-A. Also sent a letter to Bell Product Support Engineering, on 8/17/20, describing the damage on the beam assy and requesting information on a repair.</p> <p><b>09/24/20</b> Pylon beam sent to for evaluation on 09/09/20 to Piney Flats Bell facility. It was closed on 09/24/2020 as it was BER. There was an evaluation fee of \$520.00.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |
| <b>GOR: 202011</b>                         | <p><b>08/16/20 Bell407 N319MH</b></p> <p>After extensive maintenance, prior to first flight, the pilot found on post maintenance pre-flight the main rotor blade cotter keys were not installed.</p> <p>Installed missing cotter keys on main rotor blade bolts before flight.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Closed                    |                    |
| <b>FIR: 202024 Transmission chip light</b> | <p><b>08/19/20 Bell 407 N319MH</b></p> <p>On approach to the GRB after the days flying a Transmission Chip light came on. Temps and pressures were normal. Small sliver found on lower chip plug, cleaned and replaced. Engine ground run for 20 mins with no repeat light. Aircraft returned to service.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Move to open action items | Responsible Person |
| <b>Transmission oil leak</b>              | <p><b>08/25/20 B412 N330MH</b></p> <p>Aircraft departed to the Colville River area, 45 miles from Deadhorse. Flew towards mustang Pad. Weather was good. About 4 miles from Mustang, the master caution light illumined. Main transmission oil press light illumined as well. Transmission oil pressure dropped below red line (30psi). Pilot performed precautionary landing in the tundra next to the road near Mustang pad. Upon shutdown saw oil leaking from hellhole. Called maintenance.</p> <p>Found transmission sump oil line had burst. Replaced line and serviced transmission. Ground ran aircraft for 30 minutes. No defects noted. Aircraft returned to service.</p> <p><b>09/29/20</b> The hose installed was 14years at the time it burst. During the 12 month inspection all hoses over 10 years of age were replaced.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |
| <b>FIR: 202026 Overtemp</b>               | <p><b>09/01/20 Bell 206L3 N305MH</b></p> <p>First start of the afternoon was aborted due to high TOT. On second attempt, the first "spike" peaked at or equal to 850 degrees. Second peak hit the red dot (927) for less than one second.</p> <p><b>Missing maintenance comments.</b></p> <p><b>Sept 29<sup>th</sup> CASS moved this to an open item.</b></p> <p><b>Missing maintenance comments.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Open                      | Steve Slade        |

| Notable A/C items since last CASS meeting        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
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| Item                                             | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| <b>FIR: 202027<br/>Weather divert</b>            | <p><b>09/02/20 Twin Otter N600MH</b></p> <p>Weather diversion, 10 pax and 2 crew 1000 departure. On a morning flight from PASC to PAAD, the crew encountered un-forecast weather at both PASC and PAAD. During approach, Wx dropped to 1/4 mile visibility. Crew elected to hold for 20 minutes to check for improving weather, but then diverted to alternate at PASC. PASC weather degraded also and then an alternate landing was performed at PAQT (Nuiqsut). Delay was 1 hour and 15 minutes before departing again for PASC, refueling at PASC and then departure for PAAD at approx. 1530 hours. Forecast weather did not include 1/4 visibility upon departure.</p> <p>Addition procedures added to the Fixed wing SOP/RAM.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |
| <b>GOR: 202013<br/>Overflown<br/>Inspections</b> | <p><b>09/04/20 Bell206L4 N311MH</b></p> <p>Aircraft was down for maintenance on 8/31/2020. This was prior to annual inspection being start. Then the aircraft flew after the start of the month. On the 4th of September, the aircraft was brought down for annual inspection and it was realized that two calendar inspections had been overflown (ELT and Fire Extinguisher). Inspections were completed on 9/4/2020. Aircraft was returned to service.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                                                                                                           | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
| <b>FIR: 202025 Overtemp</b>               | <p><b>09/06/20 Bell206L1 N315MH</b></p> <p>The FAA rented 315MH for NVG currency flight. The inspector was sitting right seat. At 12% N1 the inspector introduced fuel to flight idle. I called out "abort" and while trying to close the throttle the inspector pulled his finger off of the starter. I immediately reached over to motor starter and close the throttle. The TOT reached above 927 degrees for less than one second. The TOT light illuminated. I notified maintenance the next morning. Performed Inspection per RRmm250-C30, ops and GMM (Table 608 #7) no defects noted. All tools accounted for. MOC flight completed, operations normal with no defects. Aircraft approved for return to service.</p> <p><b>09/29/20</b> Ops decided that for third party pilot training the MHI pilot in the aircraft will perform the start.</p> <p><b>Sept. 29th CASS Meeting closed this item.</b></p> | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                    |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Move to open action items | Responsible Person |
| <b>FIR: 202028</b>                        | <p><b>09/23/20 Twin Otter N600MH</b></p> <p>Today 09/23/20 approximately 7:00 am On ground power and during preflight of external lights I returned to find the master caution flashing and CAS messages, MAU B Fail, Check Copilot PFD and ASCB Fail, also missing were both FMS data bases.</p> <p>The second failure took place on the ramp just after power up. The indications were the same as before a master caution flashing and CAS messages, MAU B Fail, Check Copilot PFD and ASCB Fail, including 9 others messages that could not be accessed with the bezel buttons. Also missing were both FMS data bases. Additionally, The pilots PFD had no SV and the copilot's side did. The CCD only worked on the #1 MFD and could not be moved to any other DU.</p> <p>After the AC was returned to service the 3rd Failure took place on the ramp while starting the #1 engine during the thermal cycle. I still had indicating engine instruments on the pilot's PFD and completed the start. We responded to the Master Cautions and found the same indications CAS messages, MAU B Fail, Check Copilot PFD and ASCB Fail, also missing we're both FMS data bases Additionally The pilots PFD had no SV and the copilots side did. The CCD only worked on the #1 MFD and would not move to any other DU.</p> <p>The AC was returned to service but required a maintenance test flight. We conducted the test flight with no problems noted.</p> <p>We then conducted a Flt. To PAAD and back. While reroute level at 3000 msl with the autopilot on we experienced a master caution followed by the autopilot disengagement and a CAS message ACSB Fail. While proceeded to the QRH the CAS message cleared itself and the autopilot was re-engaged with no further problems.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                    |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Move to open action items | Responsible Person |
| <b>FIR: 202029</b>                        | <p><b>09/24/20 Twin Otter N600MH</b></p> <p>During preflight while on ground power, Pilot experienced a repeating series of CAS messages (ASCB Fail, APM Fail) at the same time a YD was flashing on and off on the pilots PFD, additionally an intermittently flashing fail induction (Red X) on the copilots altitude display.</p> <p>Network card replaced.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p>                                                                                                                                                                                               | Closed                    |                    |
| <b>FADEC Degrade</b>                      | <p><b>09/28/20 B407 N309MH</b></p> <p>During the completion of AAIP item B0053 it was found that the FADEC DEGRADE lamp was illuminated re parking the piston did not clear the code. Since 309MH computer was taken off base, the pedestal button method was used and the following codes were in the FADEC as last ram faults MGT FH, Ng1Flt, Ng2Flt, and Ng12FH. Since they were last run faults, the cannon plugs were cleaned and reinstalled. A successful start was accomplished thus extinguishing the lamp. The helicopter was returned to service.</p> <p><b>Sept. 29<sup>th</sup> CASS Meeting closed this item.</b></p> | Closed                    |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

|                                                                   |
|-------------------------------------------------------------------|
| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list |
|                                                                   |

|                                                                                             |
|---------------------------------------------------------------------------------------------|
| CANS, CAS MEMOS not listed on the notable A/C items list                                    |
| CAN 20-01 – AD2020-02-11 – 412 inverters                                                    |
| CAN 20-02 – SB 119-098 – collective tube                                                    |
| CAN 20-03 – ASB412-20-180 – Tailboom left hand fin spar, inspection of                      |
| CAN 20-04 – ASB412-20-181 – Main rotor expandable blade bolt, inspection of                 |
| CAN 20-05 – SB119-105A – Verify proper tail rotor installation                              |
| CAN 20-06 – AD2020-12-10 – 412 tail rotor blades                                            |
| CAN 20-07 – AD2020-13-02 – Verify proper tail rotor installation                            |
| CAN 20-08 – ASBBO105-40-108 – Pilot and Copilot collective guards                           |
| CAN 20-09 – ASB206L-20-184 – Tail rotor drive shaft, inspection of                          |
| CAN 20-10 – AD2020-15-16 – Tail rotor blade bolts, reduction of life                        |
| CAN 20-11 – AD2020-16-10 – Seat belt clip, removal of                                       |
| CAN 20-12 – ASB206L-20-184RA – Tail rotor drive shaft, inspection of                        |
| CAN 20-13 – ASB407-11-95RD – Tail boom upper longeron assy 407-030-067-105, interdiction of |

|                                                              |
|--------------------------------------------------------------|
| CAN 20-14 – AD2020-18-05 – AW119 FCU stainless steel adapter |
| CAN 20-15 – AD2020-19-11 – AW119 TGB, inspection of          |
| CAS Memo M-20-03 – MHI GMM Rev 7                             |
| CAS Memo O-20-01 – ICS cords and headsets                    |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2020 |                                                               |
|----------------|---------------------------------------------------------------|
| 1.             | N320MH – 03/10/20 – MTF – Engine overspeed                    |
| 2.             | N320MH – 03/30/20 – MTF – Fuel control                        |
| 3.             | N326MH – 04/22/20 – VDZ – G/B chip light                      |
| 4.             | N312MH – 05/20/20 – MTF – Oil shaft and housing               |
| 5.             | N306MH – 06/09/20 – Kenia – Engine overtemp on start          |
| 6.             | N328MH – 07/13/20 – Deadhorse – Lower bridge damper           |
| 7.             | N312MH – 07/20/20 – MTF – Transmission chip light/Replacement |
| 8.             | N319MH – 08/08/20 – GRB – Transmission chip light/Replacement |
| 9.             | N330MH – 08/24/20 – Deadhorse – Transmission oil leak         |
| 10.            | N305MH – 09/01/20 – Akutan – Overtemp on start                |
| 11.            | N315MH – 09/08/20 – HOM – Overtemp on start                   |
| 12.            | N600MH – 09/11/20 – Deadhorse – De-ice valve                  |
| 13.            | N600MH – 09/24/20 – Deadhorse – Network interface card        |

| AOG's for 2019 by Location |   |
|----------------------------|---|
| PS4                        |   |
| PS5                        |   |
| MTF                        | 3 |
| GRB                        | 1 |
| Tonsina                    |   |
| VDZ                        | 1 |
| HOM                        | 2 |
| Kodiak                     | 1 |
| Akutan                     | 1 |
| Coldfoot                   |   |
| Dedhorse                   | 4 |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Repeat Finding: Tool Control:</b> Tool control is still an issue in Fairbanks hanger for maritime helicopters. Maritime is not following their own policy on consumable items as they were present and toolboxes and on accounted for in personal drawers.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters mechanics are following documented company tool control policy to include specific areas such as consumables in tool boxes to meet the intent of AOG guidelines section 4.4.9.</p>                                                                                                     | <p>There is a very mature tool control program at Maritime. The GMM prescribes the on-shift and off-shift inventories which are being accomplished by mechanics and also spot checked by maintenance leads and Q&amp;S. One consumable item to which there was some confusion was spools of aircraft safety wire. This is being allowed into tool boxes in a shadowed position as with other tools. Photos evidences of daily inventories, shadow boxing and actual tool drawers attached as exhibits 1905201H (#1-#5). Disagree with this as a high risk item. Maritime has had only one FOD incident in five years which involved a customer having access to the aircraft and leaving a rag on the aircraft.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p> |
| <p><b>Repeat Finding: FOD control.</b> During walkthrough of the Maritime Helicopters maintenance facility it was noted that FOD was present in company tool boxes, and does not meet the expectations of ExxonMobil Aviation Services for FOD control as outlined in the AOG paragraph 4.4.10.</p> <p><b>Recommendation:</b> Ensure that FOD programs meet the intent of the ExxonMobil AOG section 4.4.10.</p>                                                                                                                                                                                                       | <p>Spot checks are ongoing. CAS Memo produced and attached as exhibit 190502H #1 regarding FOD Program Promotion.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Finding: Incident and Hazard Reporting.</b> During the review of the Safety Management System (SMS) program for Maritime Helicopters, the answers provided to the Advisors' questions indicated that the incident and hazard reporting system is not effective, and is not being tracked in the Maritime Helicopters SMS system.</p> <p><b>Recommendation:</b> Work to further refine the incident and hazard reporting program and begin tracking and trending of reports. This can be done by the use of safety promotion, training, and increasing the general understanding level of the SMS as a whole.</p> | <p>Not certain about the comment here. Enclosed are exhibits 190501 (#1-#3). The Flight Irregularity Report and the Ground Occurrence Reports have good participation and tracking from the initial incident through management review at the quarterly Continuing Aviation Surveillance System Meetings' Safety Review. FIRs and GORs are also distributed to the workforce in the form of the quarterly safety notes as part of Continuous Improvement and Safety Promotion</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                               |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Finding: Publication Control.</b> While conducting aircraft hangar inspection in Fairbanks, Alaska it was noted that printed publications were present in aircraft tool boxes which is against Maritime Helicopters publications control policy.</p> <p><b>Recommendation:</b> Ensure that the policy is being followed as written, and copied publications are not present in tool boxes.</p>                                                                                          | <p>There was a single evidence of a mechanic whom had printed a page from the Bell manual to accomplish a task and then not destroyed the copy. GMM reference changed to include the printing of “uncontrolled copy” footer on all technical manual reproduction. Exhibit 190503M #1</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                  |
| <p><b>Finding: Aircraft Logbooks.</b> During review of aircraft logbooks it was noted that aircrew preflight signature acceptance documentation was missing.</p> <p><b>Recommendation:</b> Ensure that pilots are following logbook documentation procedures for acceptance of aircraft regarding pre-flight.</p>                                                                                                                                                                             | <p>CAS Memo attached to stress completion of records and will also include the system for changing errors made in aircraft logbooks associated with finding 190505L<br/>Exhibit 190505M #</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                             |
| <p><b>Finding: Emergency Response Plan.</b> During review of the Maritime Helicopters emergency response plan program it was noted that expectations do not meet ExxonMobil AOG 10.2.1 guidelines. There was no documentation on drills, and how they manage the deficiencies noted during drills.</p> <p><b>Recommendation:</b> Ensure that the emergency response plan drill deficiencies are identified, and assigned to personnel for rectification with target dates for completion.</p> | <p>Discussed the ERP addition to the iAuditor program. (Exhibit 190506M #1). It was also discussed that ERP has been added to the Safety Portion of the Quarterly CASS Meeting with the complete Safety Committee attending. Management participation in ERP has been positive and ERP will be added to regular audit schedule. ERP is still discuss at all indoctrination Training and (now) annual instead of biannual safety training</p> <p><b>Recent audit Exxon witnessed ERP, satisfied.</b></p> |
| <p><b>Finding: Audit Plan.</b> During a review of the Maritime Helicopters quality assurance program it was identified that no annual audit plan exists, and no tracking of audits was available.</p> <p><b>Recommendation:</b> Create an annual audit plan, and tracking system to ensure scheduled audits are completed on an annual basis.</p>                                                                                                                                             | <p>Audit plan has always existed and <i>was previously</i> more focused on a manual system with results entered into an Excel format. Now, with iAuditor (discussed with Aviation Advisor and on the <i>suggestion</i> of the aviation advisor) the audit plan is stored in iAuditor. Exhibit 190507 #1</p> <p><b>Closed</b></p>                                                                                                                                                                        |
| <p><b>Finding: Risk Register.</b> During review of the Maritime Helicopters quality management program it was noted that there was no audit feedback to the risk register to identify new risks in the Maritime Helicopters operation.</p> <p><b>Recommendation:</b> Ensure that the audit function has a tie back to the risk register to ensure risk identification and risk mitigation for the quality management system that meets the intent of the ExxonMobil AOG section 2.0.3</p>     | <p>Finding Under Review. Having added the Safety Review portion to the quarterly CASS meeting. The “management involvement and feedback” is being accomplished.</p> <p><b>Closed</b></p>                                                                                                                                                                                                                                                                                                                |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Corrective action                                                                                                                                                                                                                                                                                                 |
| <p><b>Finding: Shelf Life Control.</b> During a review of the Maritime Helicopters spares department items were identified that were past shelf life, and did not match dates being tracked in the stores control system.</p> <p><b>Recommendation:</b> Ensure that all items entered into the stores control system are entered accurately, and match shelf life dates on parts that are on the shelves.</p>                                             | <p>There was a single item that was transcribed into the CALM program improperly. It was not expired during the audit visit and the monthly, shelf life item inventory would have caught the mistake. Exhibit 190501L #</p> <p><b>Closed from previous audit.</b></p>                                             |
| <p><b>Finding: SMS training.</b> During the review of the SMS program it was noted that SMS training is accomplished every two years. Given the findings concerning incident and hazard reporting, the Advisor felt training on the Maritime Helicopters SMS could be stronger.</p> <p><b>Recommendation:</b> Conduct SMS training annually.</p>                                                                                                          | <p>Quality &amp; Safety has added SMS training on annual basis</p> <p><b>Closed</b></p>                                                                                                                                                                                                                           |
| <p><b>Finding: Stabilized Approach.</b> During a review of the Maritime Helicopters operations manual it was noted that the stabilized approach rate of decent exceeds the AOG allowable of 750 ft. /min.</p> <p><b>Recommendation:</b> Ensure that the Maritime Helicopters operations manual notes that if a rate of decent exceeds the AOG maximum, that a verbal briefing is conducted to meet the intent of the ExxonMobil AOG section 6.11.3.d.</p> | <p>The Maritime SOP has been revise to reflect the policy of AOG's 750 ft./min rate of descent for stabilized approaches Exhibit 190503L #1 (2 Pages)</p>                                                                                                                                                         |
| <p><b>Finding: PED Policy.</b> During a review of the Maritime Helicopters operations manual it was noted that there is no personal electronic device policy.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters creates a personal electronic device policy, and inserts it into the current operations manual to meet the expectations of the AOG section 6.11.6.</p>                                                                       | <p>Maritime SOP Changed to include a more AOG compliant policy regarding Personal Electronic Devices. Exhibit 190504L #1</p> <p><b>Closed</b></p>                                                                                                                                                                 |
| <p><b>Finding: Dangerous Goods Storage.</b> During a review of the Maritime Helicopters spares department it was noted that dangerous good items are not segregated on the shelves from standard spares.</p> <p><b>Recommendation:</b> Ensure that all dangerous goods items are segregated in a dangerous goods area in the store room.</p>                                                                                                              | <p>Dangerous Good Categorization is for shipping of items aboard aircraft under IATA. The flares in question were in their original packaging and stored IAW the SDS. (190509L #1). Flares have been moved to a military style ammunition can on the insistence of the aviation advisor.</p> <p><b>Closed</b></p> |

| Suggested maintenance training for next year |
|----------------------------------------------|
|                                              |

| Safety Management System                               | Evidence                                                                                                                                                                                                                                                                                                                                                                                                         | Effectiveness                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Emergency Response Plan-Old</p> <p>New</p>          | <p>Probably need to do an exercise with the Koala/B412 primary/backup---self supported ERP up at OSI?</p> <p>Twin Otter ERP on 15 July Emergency Response Exercises added to iAuditor. Twin Otter was test bed</p> <p>Current Pocket Checklist is Version 24 (blue) still working site specific EPC for Twin Otter</p> <p>Discussed new version Conoco Phillips to incorporate CP difference and restructure</p> | <p>Shortened Koala season. Only tabletop discussions. Tabled until Spring 2021</p> <p>.</p> <p>Need to shore up relationship on services for Emergency Response at Point T. Towbar? Placed in iAuditor for follow on. Towbar complete at PAAD as of August Work with Mark H. on Follow up/corrective actions. Do not close audit until DOO approves closure</p> <p>Scott F. had a version. Just need to finalize Prudhoe version. Check on new version at 9/29 CASS</p> <p>In progress</p> |
| <p>Station Checklists-Audit Program-OLD</p> <p>NEW</p> | <p>COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions.</p> <p>Homer Base Audit</p> <p>Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items</p> <p>Need to create plan for Fuel Audits in Larry A's absence</p>                                                                                                         | <p>Schedule Alyeska Audits when able. Kodiak audit scheduled the week of 8 OCT</p> <p>TBD</p> <p>Audit has spill kits included now.</p> <p>Discussion</p>                                                                                                                                                                                                                                                                                                                                  |

| Safety Management System         |     | Evidence                                                                                        | Effectiveness                                                                                                                                             |
|----------------------------------|-----|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management of Change             | OLD | AW119 & NVGs Closed out? One year Review?                                                       | Work Need Status update from Steve?<br>Aircraft already working, ask Steve to just review effectiveness of MoC?                                           |
|                                  |     | Other new Aircraft/Systems?                                                                     | MoC for NVG operations started by D. Jones (review/complete?)                                                                                             |
|                                  |     | FOQA/FDM/HFDM- This is first month of FOQA review at CASS mtg to close out Exxon audit finding/ | Will need program development for Exxon                                                                                                                   |
|                                  | NEW | ConocoPhillips needs an example of MOC for the bid/tender process                               | Discussion                                                                                                                                                |
|                                  |     | MOC for HFDM for Conoco aircraft for next summer? B407x2?                                       | Discussion                                                                                                                                                |
| Overall Safety Effectiveness-OLD |     | Incident Reporting improved this quarter                                                        | Effectiveness<br>Lots of FIRs and GORs. Great job in reporting.                                                                                           |
|                                  |     |                                                                                                 | Incorporating FIR/GOR database with rotary wing or start new Access Database?                                                                             |
|                                  |     | Exxon holding two week meetings, many items closed out                                          | From Mark O. "Now awaiting amended ASRAP from C. Ross." Many items closed out. Still need to work on a few DOM issues. (toolbox talk topics for the year. |
|                                  |     | Not getting a lot of feedback from toolbox talks or written documentation. Now on EXXON audit   | Keep stressing Toolbox talks! (need a hard and fast policy from DOM)                                                                                      |
|                                  |     |                                                                                                 | Need Fire Drill at Homer.                                                                                                                                 |

| Safety Management System | Evidence                                                                                                                                                                                                                                 | Effectiveness                                                                                                                                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p>Safety Awareness/Training: Alyeska &amp; Exxon requiring certain safety subjects on Elite/OSHA/Flight Safety topics.</p> <p>QA/QC training for EXXON was proposed for Mackey...Thought of using Six Sigma online through Aveta U.</p> | <p>SMS Training to be added annual instead of biannual (already done for Alyeska)</p> <p>Annual SMS training successful with Alyeska personnel. Add Homer when able.</p> <p>Added ThinkHR to Safety Training and that program is continuing pretty well. Exxon accepting that for Safety Training. Great job by Tiffany!</p> |
|                          |                                                                                                                                                                                                                                          | Mackey has the white belt six sigma and working on the green                                                                                                                                                                                                                                                                 |
|                          | <p>SMS Policy all signed by leadership Team?</p> <p>Look into Emergency Response Coordination Team contract (Kenyon) for Conoco Contract &amp; others</p>                                                                                | <p>In progress</p> <p>Would be placed in ERP Manual if approved. Emails from Kenyon being exchanged now.</p>                                                                                                                                                                                                                 |

#### Flight Operational Quality Assurance (FOQA) Steering Committee:

DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation.

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 11/19/20 |
|---------------------------------|----------|

## DHC-6-400 FLIGHT OPERATIONAL QUALITY ASSURANCE (FOQA) SAFETY BULLETIN

9 September 2020

Fixed Wing Crews,

We have received our first Flight Operational Quality Assurance (FOQA) safety report from our independent analyst, JH Data consulting – see attached.

As indicated, we had four events (moderate or severe) that were captured, validated and reported.

The unstable approaches were for VVI exceeding 750 ft/min while below 500 ft AFE and the low speed/stall warning events were due to an approach flown at Vref-10 without correction and then flaring at a slow airspeed triggering the stall warning just before touchdown.

These events highlight trends that are contrary to our SOPs for stabilized approaches (SOP 6.14) and can be avoided by planning to be stabilized at 1000 ft AFE approximately 3 nm from the runway for IFR approaches and 500 ft AFE approximately 1.5 nm from the runway for visual approaches. Current SOPs require Vref +15/-0 kts to be maintained throughout the approach with a smooth power reduction in the flare to avoid getting slow and triggering a stall warning prior to touchdown. In the future we will likely change this to Vref +10/-5 kts to match general airspeed deviations in SOP 1.12.

We will continue to monitor our FOQA safety data to ensure that these parameters meet the intent of our SOPs. We depend on your honest feedback on these events to verify if we are on track or not.

Overall, the fixed-wing operation is maturing very nicely with everyone doing their part to develop a program we all can be proud of. Thank you for your continued professionalism and safe operations!

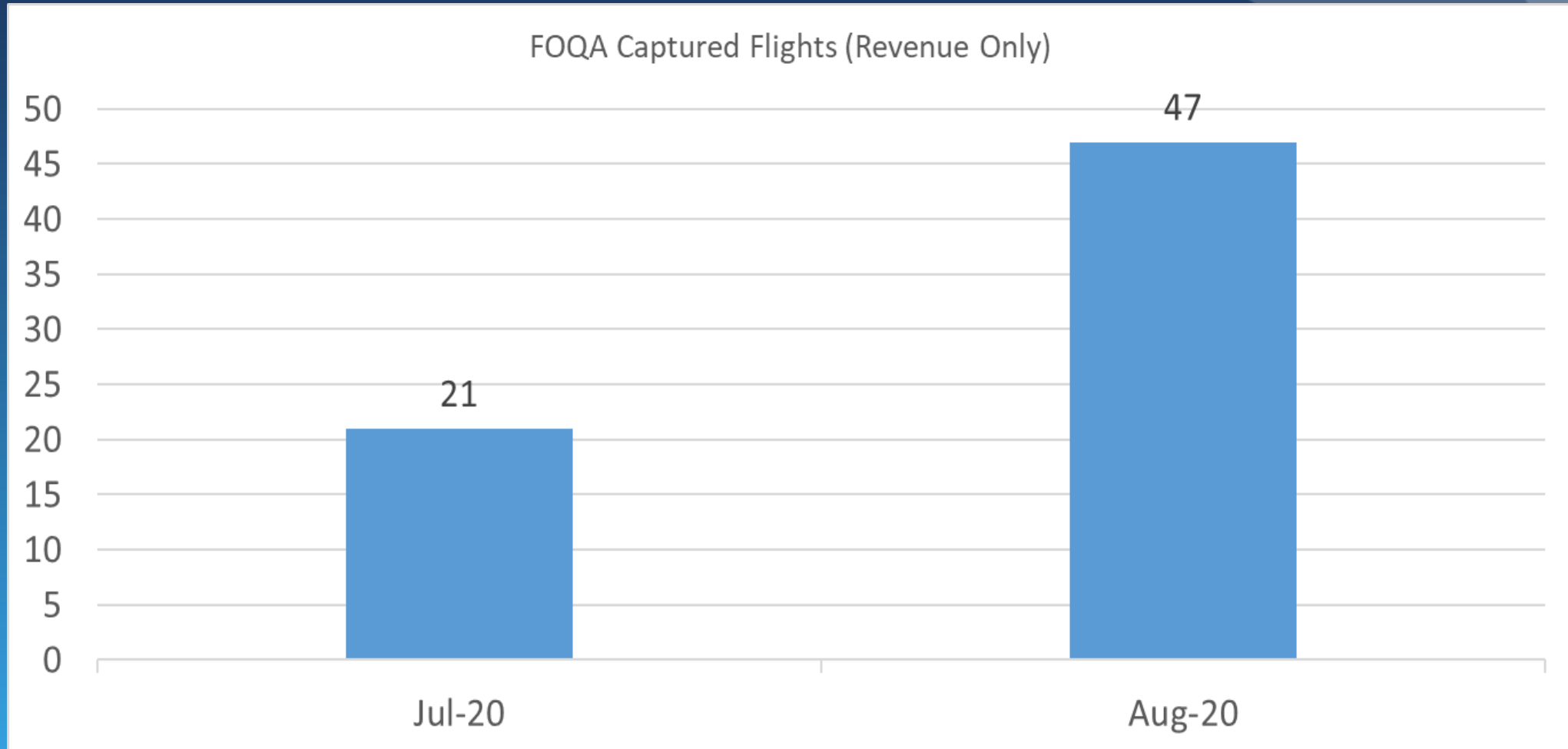


# Maritime Helicopters Fixed-Wing

FOQA Statistics

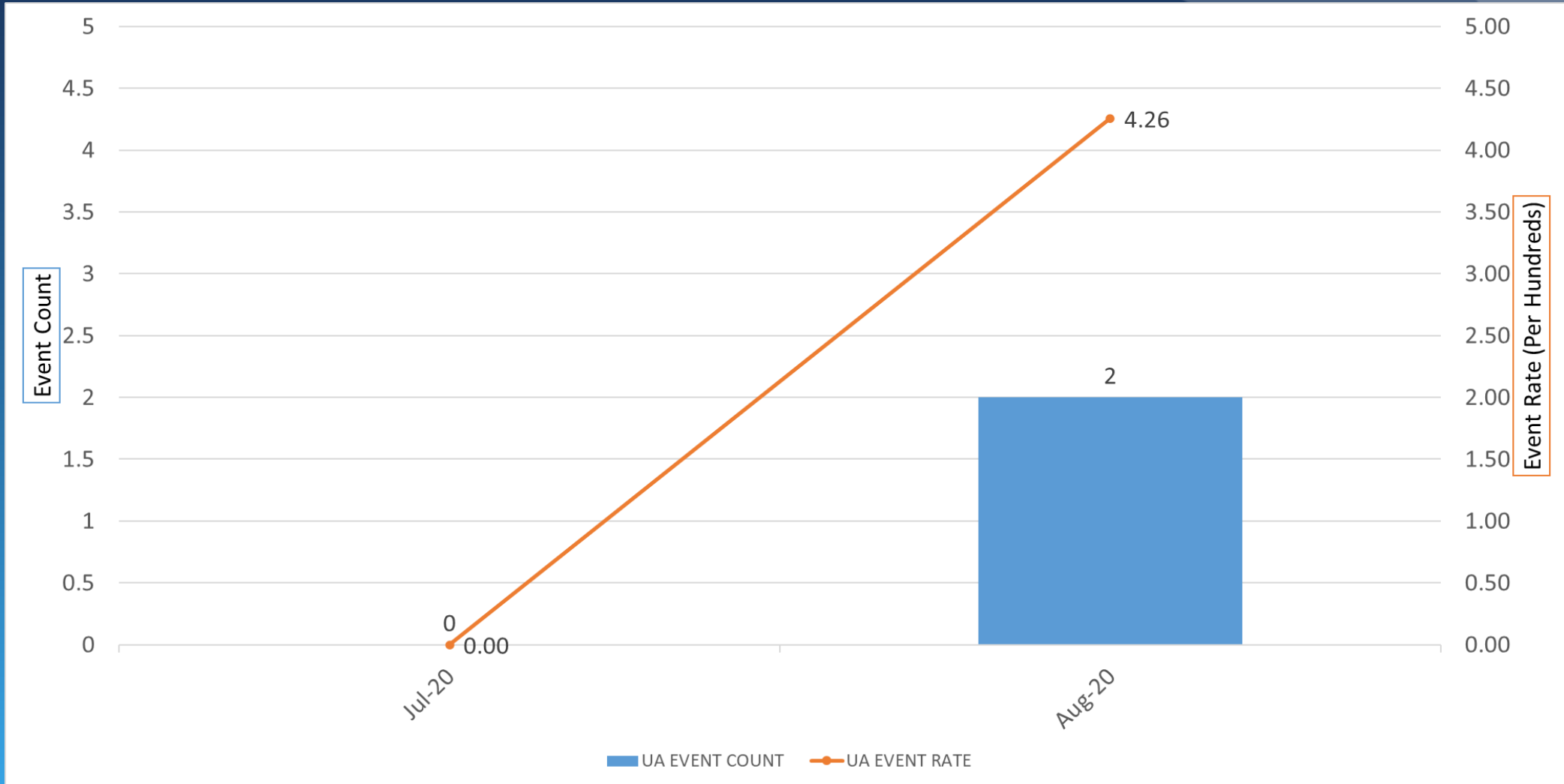
September 2020

# FOQA Captured Flights



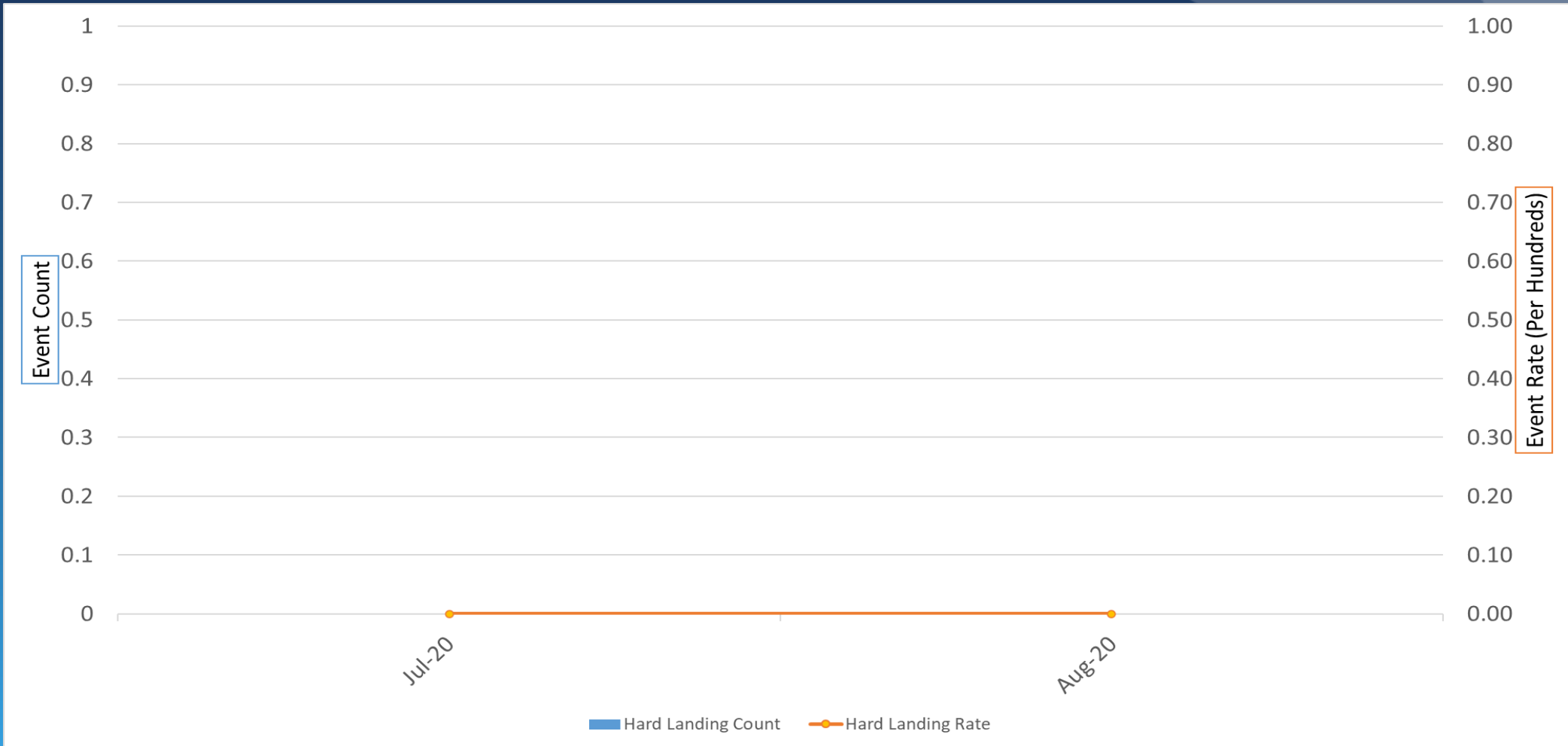
# Unstable Approaches

Moderate and Severe only



# Hard Landings

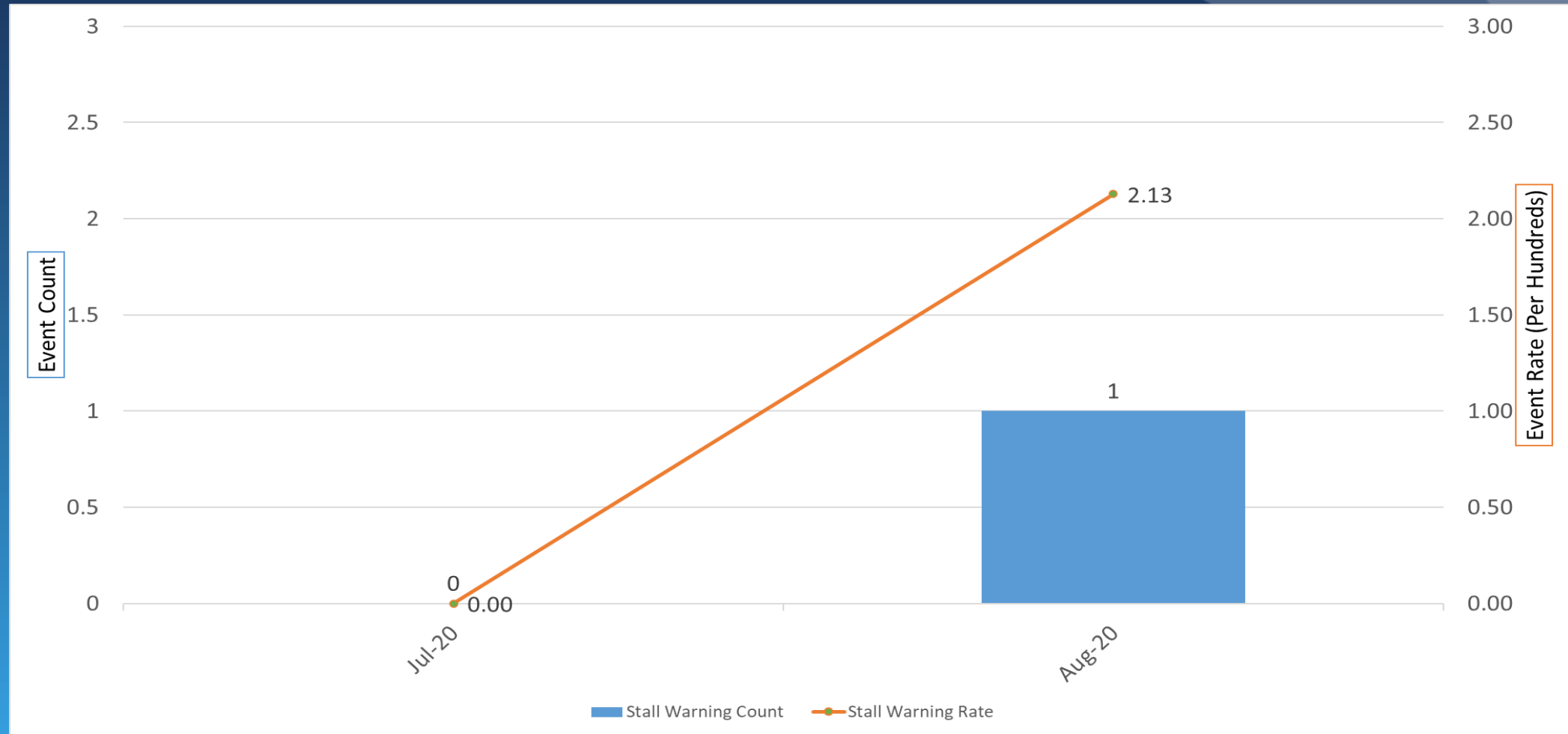
Moderate and Severe only



No Hard Landings Detected for July and Aug 2020

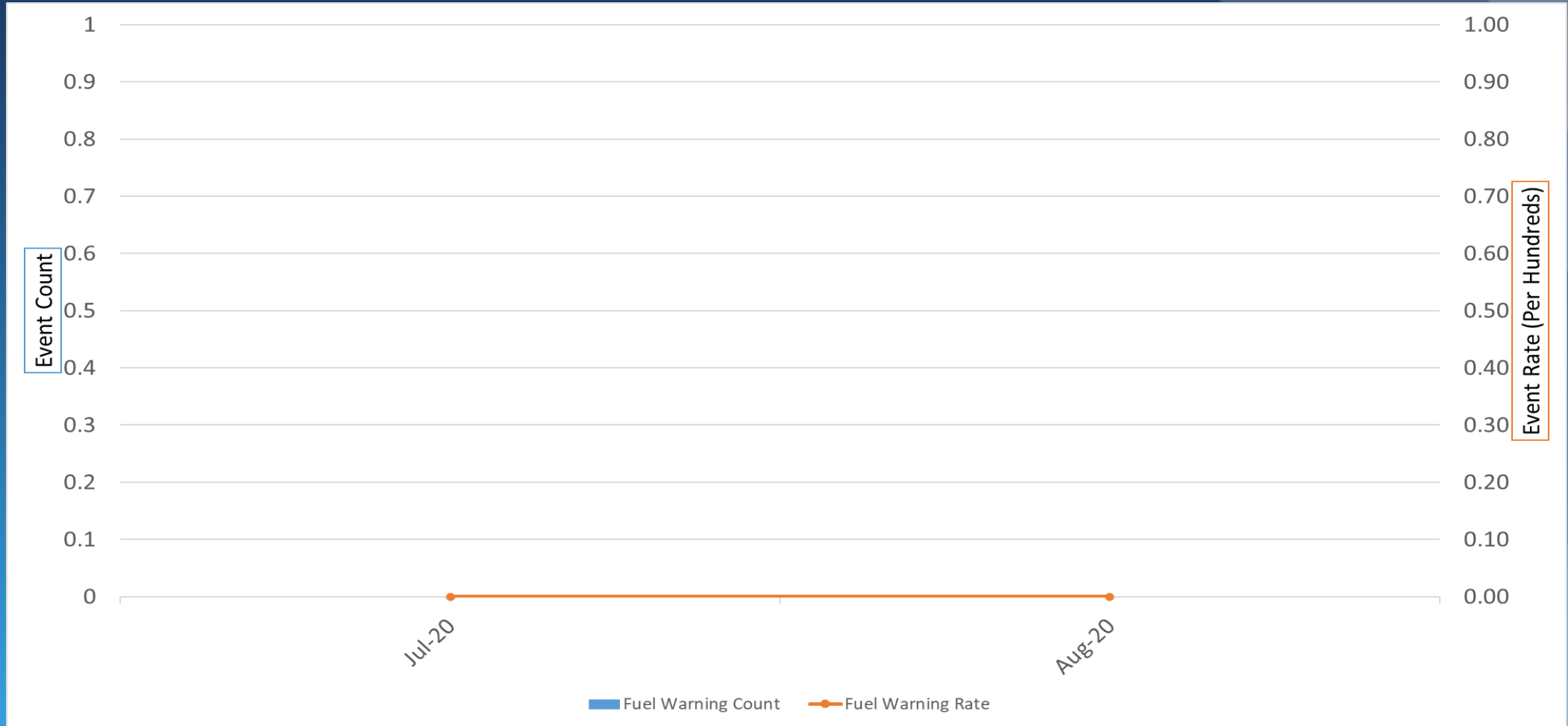
# Stall Warnings

Moderate and Severe only



# Low Fuel Warnings

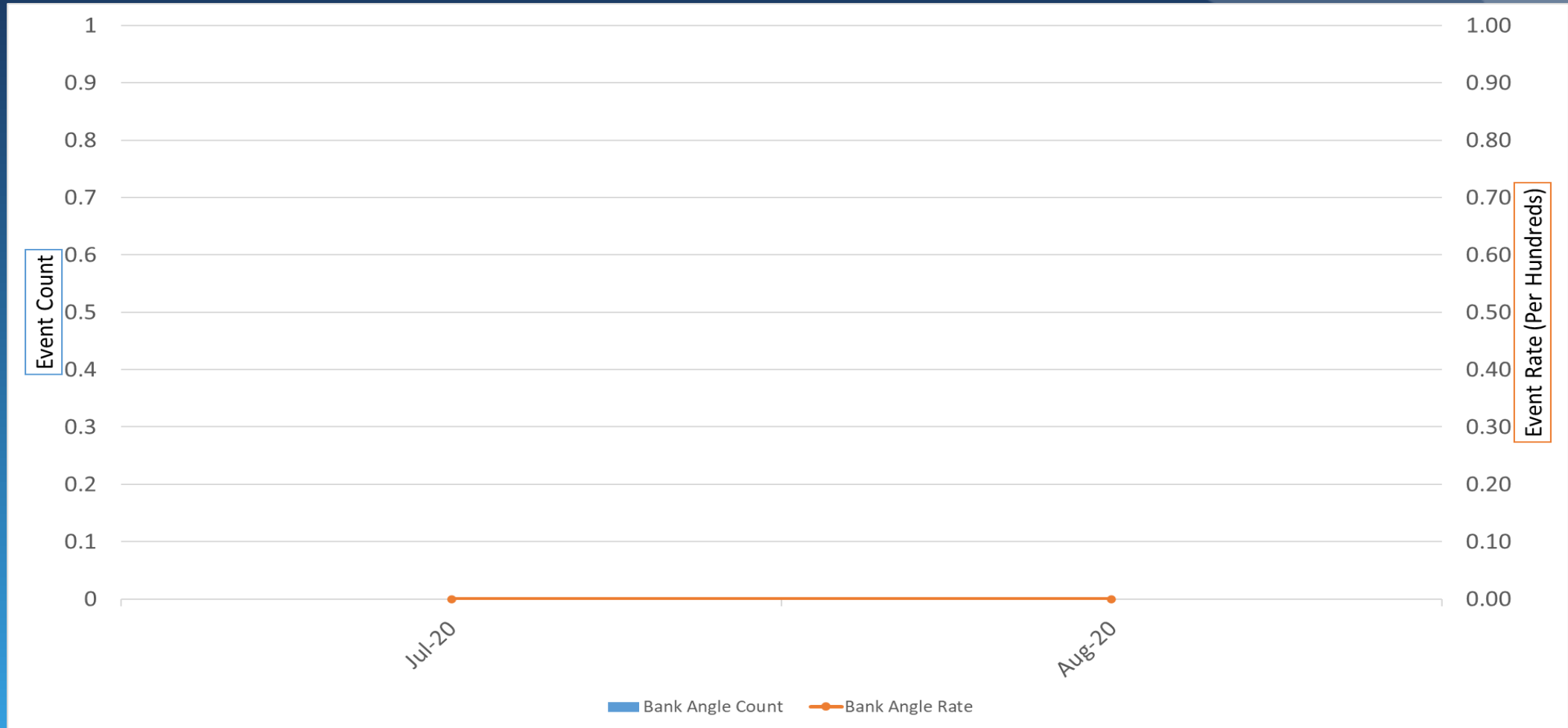
Moderate and Severe only



No Low Fuel Events Detected for July and Aug 2020

# Excessive Bank Angle Events

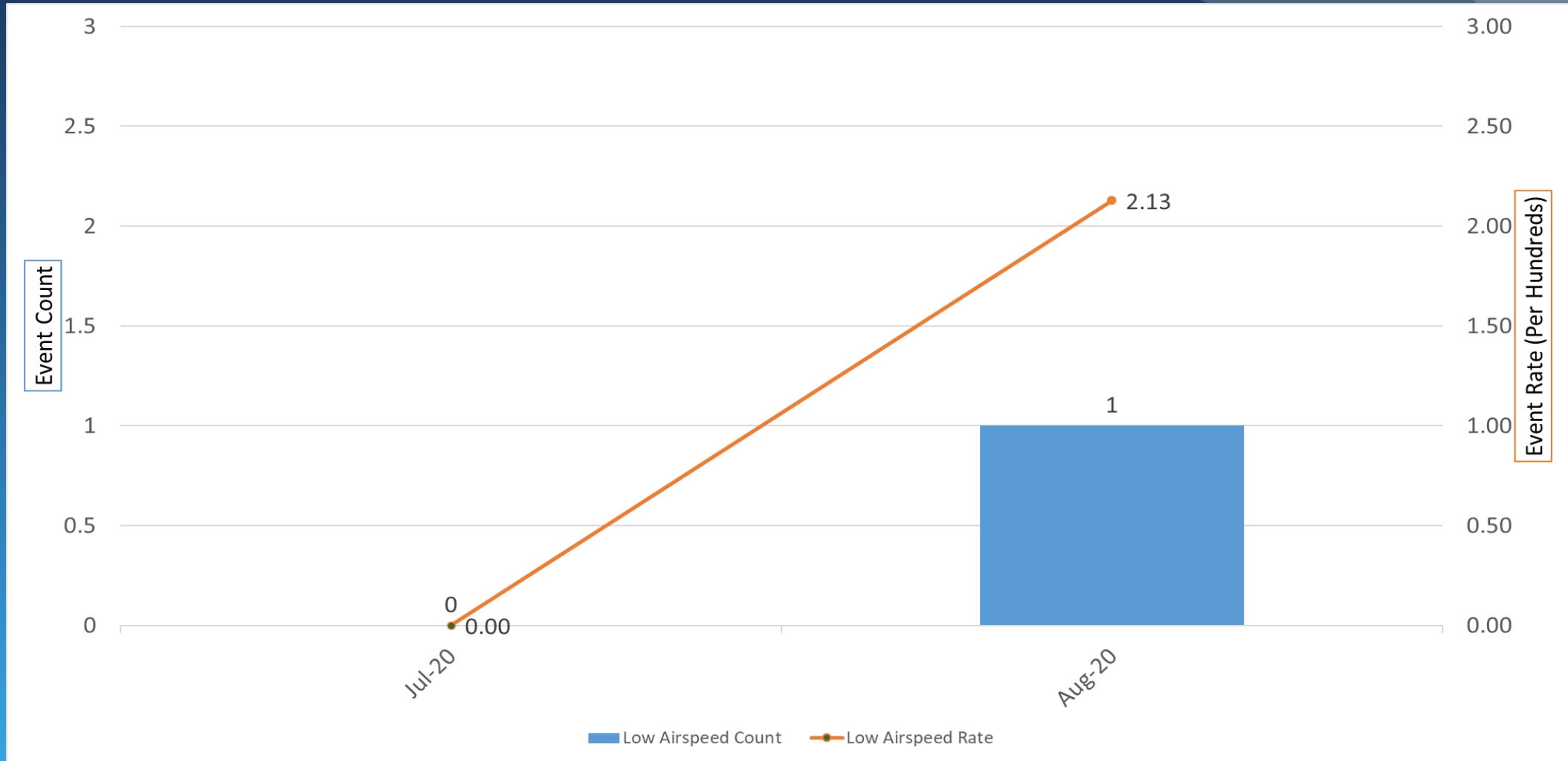
Moderate and Severe only



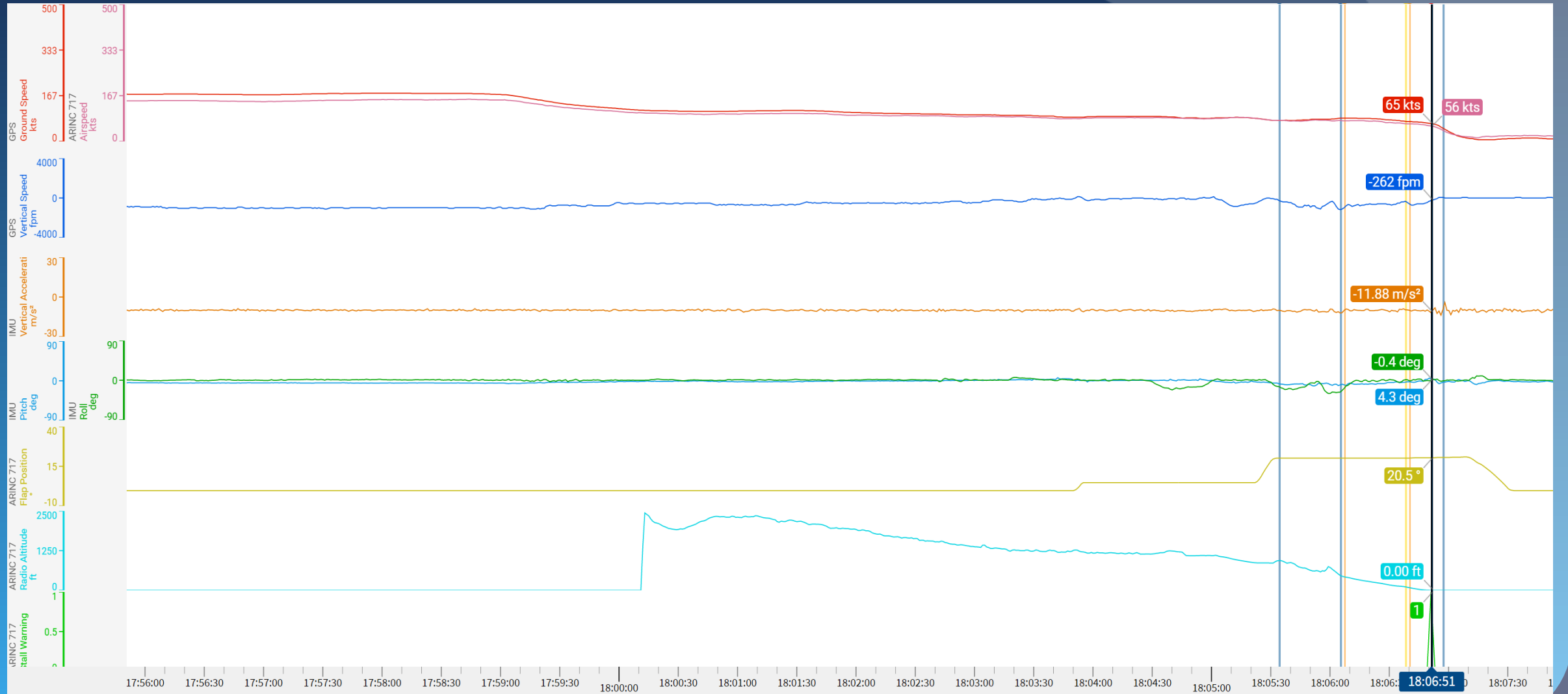
No Bank Angle Events Detected for July and Aug 2020

# Low Airspeed Events

Moderate and Severe only



# Event Focus (Stall Event)





**Maritime Helicopters**

**CASS**

Continued Airworthiness Surveillance System

**July 2020**

**Meeting minutes**

# CASS Meeting

|          |         |     |
|----------|---------|-----|
| 07/30/20 | 10:00AM | MTF |
|----------|---------|-----|

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| <b>MEETING CALLED BY</b> | Isaac Mackey - Fairbanks Lead                    |
| <b>TYPE OF MEETING</b>   | CASS Meeting                                     |
| <b>FACILITATOR</b>       | Isaac Mackey - Fairbanks Lead                    |
| <b>ATTENDEES</b>         | Dave Jones, Steve Slade, Brent Estep, Dave Busga |

## Agenda Topics

1. Discuss old open action items
2. Review notable aircraft items since last CASS meeting
3. Review SDR,MIR,MDR reports
4. Review GOR's and FIR's reports
5. Review CAN's / CAS memos
6. Review teardown reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG's
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Flight Operational Quality Assurance (FOQA) Steering Committee
15. Other items
16. Schedule next meeting

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>N330MH FM Radio issue added by July 18th CASS meeting</b></p> <p><b>07/06/19 ACTT 7071.1</b><br/>TDFM-136A FM Radio Displays main RF module Fail. Removed TDFM-136A And Replaced with serviceable TDFM-136B IAW Technisonic Ops check good aircraft returned to service.</p> <p><b>07/16/18</b> Teardown report on TDFM-136A confirmed bad module. Spoke with Radio masters tech about cause, determined to be a weak part of the radio and subject to failure.</p> <p><b>07/08/19 ACTT 7085.8</b><br/>TDFM-136B FM Radio display will not show frequencies on display. Removed and replaced TDFM-136B With serviceable NPX-138D. Ops check good aircraft returned to service.</p> <p><b>07/18/19 Waiting on teardown report</b></p> <p><b>07/16/19 ACTT 7099.5</b><br/>NPX-138D FM radio indicates “module Comm error”. Removed NPX-138D and installed serviceable TDFM-136A. Ops check good aircraft returned to service. (installed same TDFM that was removed 07/06/19)</p> <p><b>Dec 31<sup>st</sup> CASS Meeting left this an open item.</b></p> <p><b>Mar 25<sup>th</sup> CASS Meeting left this an open item.</b><br/>Not enough flight time to verify problem</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b><br/>As of 7/28/20 the aircraft has flown 150hrs without another FM issue or radio replacement. No further action required.</p> | Isaac Mackey | Seth Harper        | TBD      | Closed 07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
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| <p><b>N319MH 10/12/2019</b></p> <p>Pilot was flying security and surveillance flight with Alyeska. About ten minutes into flight and 12 NM from MTF, pilot noticed torque gauge fluctuations, engine oil pressure decreasing (all the way to 0 psi) and engine chip light illuminated. Pilot landed immediately in an unimproved area of the Tanana Flats. Pilot had to move the aircraft about thirty feet after first landing due to wet muskeg. Pilot shutdown the aircraft immediately without the two-minute cooldown due to no oil pressure. Pilot called Fairbanks mechanic on standby duty (S. Harper), he texted maintenance lead, base manager and Q&amp;S manager who then coordinated crew retrieval. (end of pilot comments).</p> <p>Bell 407 from Metro was sent out to retrieve customers and personnel began prepping recovery crew. As it was undetermined how long the aircraft was run without lubrication, the decision was made to aerial recover the aircraft with the Bell 412. By 1800 this day, the aircraft was back at Metro and all personnel recovered. Initially, HAZREC was added to the Alyeska IMPACT reporting system, but this was later upgraded to a loss incident due to small amount of oil being released to the earth at the precautionary landing site (to soil)</p> <p>Initial investigation showed that an engine mount retorque had been accomplished, with the engine sump line removed to facilitate this work. The sump line was not properly installed afterwards, and no leak was written up by the mechanic who performed the work.</p> <p><b>Dec 31<sup>st</sup> CASS meeting moved this to an open item. Waiting on teardown reports and final cost.</b></p> <p><b>01/20/2020</b></p> <p>The engine was ran without oil for over 30 seconds and therefore required removal. All Eng. components were sent to Arrow Aviation to be inspected. N319MH received a serviceable engine from N407RH (Aircraft in yearly at the time) and was returned to service. All the engine components were overhauled and shipped back to Fairbanks. Total overhaul cost was \$279,004.67. Total shipping cost was \$3014.08</p> <p><b>Mar 25<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey |                    | TBD      | Closed<br>03/25/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED          |
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| <p><b>FIR Overtemp N315MH 1/30/2020</b></p> <p>Start Temperature (time) exceedance of over 10 seconds above 768 degrees. Flight was aborted.</p> <p><b>(no maintenance comments)</b></p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>FIR provided March 26th:</b> On first start up solo, first time in N315MH aircraft, I introduced fuel at 12% with similar crack of throttle as I had previously been used to in other aircraft. Temp peaked at 860C and was coming down nearing 768 when the TOT light came on. At the time I had not believed it would be a 10 second exceedance, so had not rolled the throttle down. I proceeded to shut down the helicopter and called the Homer office. I discussed with Brent and Bob, and was told to abort the flight. Maintenance was dispatched to Kenia to evaluate. Dave Jones also called and discussed that every aircraft is different and possibly this one starts hotter. Maintenance discovered an intermittently faulty TOT gauge and a starter in need of replacement. These items were replaced in the aircraft. I assisted in the leak check and flight of N315MH the next day with the mechanic.</p> <p>Maintenance: Performed TOT system calibration check. Found gauge was out of limits. Replaced Gauge. Performed hot end inspection, found burner can liner to be warped and cracked beyond limits. Replaced liner. During battery/starter performance check, starter made screeching noises when operated. Replaced starter.</p> <p>Starter was just over 100hrs TBO when removed. Evaluation came back with several internal parts worn.</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        |          | Closed 07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
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| <p><b>Eng Chip light                    N304MH 02/07/2020</b></p> <p>During downwind leg to the second landing site, the engine chip light illuminated. Pilot aborted the planned approach to the confined area</p> <p><b>(no maintenance comments)</b></p> <p><b>March 25<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting left this as an open item.</b></p> <p><b>07/31/20</b> <i>Received maintenance comments.</i><br/> <i>Engine chip light</i><br/> 06-29-19 at ACTT 12192.9<br/> 08-30-19 at ACTT 12269.3<br/> 12-13-19 at ACTT 12338.5<br/> 02-10-20 at ACTT 12346.1</p> <p><b>02/13/20</b> <i>Replaced turbine, compressor and gearbox due to multiple chip lights in the last 150hrs. Airborne Engines gearbox teardown report confirms the source of the chip lights.</i></p> <p><b>02/13/20</b> Turbine time continued repair for \$5680.72 and compressor inspection for \$5186.72</p> <p><b>03/03/20</b> Airborne engines Gearbox quote for \$72,046.06</p> <p><b>03/05/20</b> Purchase serviceable gearbox for \$30,000</p> <p>Total cost \$40,867.44</p> | Isaac Mackey | Brent Estep        | 09/29/20 |                    |
| <p><b>GOR Tail rotor drive hardware                    N309MH 03/06/2020</b></p> <p>During the Maintenance Torque check on the Tail Rotor Drive hardware, two bolts on the aft, short shaft were found to be snug but not torqued. They were not loose, but they had no discernable torque. Also, no torque stripe had been applied to all eight bolts of short shaft.</p> <p>Retorqued all bolts on aft, short shaft to max torque. Applied torque stripe and transferred to logbook retorquer requirements IAW BHT 407 MM. Also, removed and replaced affected bolts with new bolts.</p> <p><b>March 25<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item</b></p>                                                                                                                                                                                                                                                                                                                                                                                       | Isaac Mackey | Brent Estep        |          | Closed<br>07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED             |
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| <p><b>Tail rotor strike      N304MH 3/09/2020</b></p> <p>Tail Rotor Strike in Alders (confined area ops.) Around 2:30pm recon of confined area, 150' trees, 60' diameter LZ, power line running through one side. There was a 10-kt. wind from the northwest and pilot opted to descend into the confined area with the headwind instead of maximum LZ clearance. After descending into the LZ "hole" pilot could find only one suitable spot to land skids with uneven snow surface. Passenger offered to open the door and view tail rotor clearance for pilot. Passenger said that if the pilot moved three feet forward, the tail would be clear. Pilot felt the tail rotor strike in his pedals and the passenger said, "not good", never mind. Aircraft was returned to Homer.</p> <p><b>(maintenance comments missing)</b></p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>03/20/20</b> Performed inspections IAW Bell 206L3MM Para 5-54 Hub and tail rotor assy and both rotor blades were scrapped. Drive train removed and sent down to Aero Products. Total cost was \$86,861,16</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Isaac Mackey | Brent Estep        |          | Closed<br>07/30/20 |

| OLD OPEN ACTION ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INITIATED BY    | RESPONSIBLE PERSON | DEADLINE | CLOSED            |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |
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| <p><b>Overspeed      N320MH ACTT 1979.4 03/10/2020</b></p> <p>Pilot Induced N2 High Side (112% for one sec). First run for tail rotor balance was being performed and the pilot was doing the fuel checks on run-up. Inadvertently lifted the Fuel Switch instead of the transfer switch. Dropping the cover (and opening the fuel switch back up) caused the overspeed</p> <p>Maintenance contacted PWC and verified the engine must be sent in for inspection. Due to the turnaround times and flying requirements an exchange engine was purchased. Install in progress</p> <p><b>March 25th CASS Meeting moved this to an open item.</b></p> <p><b>03/30/20 Totals for the engine are as follows:</b></p> <table><tr><td>Engine Exchange</td><td>\$275000.00</td><td>9768F</td></tr><tr><td>Customs Clearance</td><td>\$696.26</td><td>Into the US</td></tr><tr><td>UPS</td><td>\$952.60</td><td>Shipping to MHI</td></tr><tr><td>Exchange Shipping</td><td>\$5037.59</td><td>FedEx Freight</td></tr><tr><td>Total</td><td>\$281,686.45</td><td></td></tr></table> <p>The total FedEx freight charge was extremely high due to the transportation cost of the engine across the border.</p> <p><b>July 30<sup>th</sup> CASS Meeting closed this item.</b></p> | Engine Exchange | \$275000.00        | 9768F    | Customs Clearance | \$696.26 | Into the US | UPS | \$952.60 | Shipping to MHI | Exchange Shipping | \$5037.59 | FedEx Freight | Total | \$281,686.45 |  | Isaac Mackey |  |  | Closed 07/30/20 |
| Engine Exchange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \$275000.00     | 9768F              |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |
| Customs Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \$696.26        | Into the US        |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |
| UPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \$952.60        | Shipping to MHI    |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |
| Exchange Shipping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \$5037.59       | FedEx Freight      |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |
| Total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \$281,686.45    |                    |          |                   |          |             |     |          |                 |                   |           |               |       |              |  |              |  |  |                 |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Move to open action items | Responsible Person |
| <b>Engine Fuel Control Issue</b>          | <p><b>4/9/2020 N320MH</b></p> <p>During engine replacement ground run, N1 at idle was indicating 48%. Engine was shut down and restarted. N1 was again indicating 48% N1, then surged to 58% NG without throttle movement. Maintenance contacted Pratt &amp; Whitney, Canada for technical support. PWC informed maintenance that the fuel control installed on the engine was a "bad fuel control" according to component part number and serial number.</p> <p>Fuel Control was replaced with serviceable unit and POC was performed successfully. Aircraft returned to service.</p> | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Move to open action items | Responsible Person |
| <b>FIR 202011</b>                         | <p><b>04/22/2020 N326MH</b></p> <p>Enroute to the Valdez Marine Terminal (VMT) the INT/TR XMSN (CHIP) light illuminated. Pilot activated the Chip Pulse Switch and the light went out. Pilot continued flight to the VMT. While in an OGE hover at the VMT the INT/TR XMSN light flickered then came on steady. Pilot Informed the customer and returning to PAVD. The entire flight was 0.2hrs.</p> <p>Flushed both the tail rotor and the Intermediate gear boxes with new oil 2 times. Some fine fuzz limited accumulation on both chip plugs, indicating normal wear. Completed ground run, leak checks, and maintenance flights with no defects noted. Aircraft returned to service.</p> <p><b>04/28/2020</b> Tail rotor gearbox removed and serviceable gearbox installed as precaution. Removed gearbox sent to Airbus for repair.</p> | Closed                    |                    |
| <b>ELT FIR 202012</b>                     | <p><b>05/24/2020 N312MH</b></p> <p>ELT activated twice while in flight. Visual indication light was intermittent. Removed ELT from aircraft. Ordering new one and MEL'ed according to MHI procedures. New ELT installed. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Closed                    |                    |
| <b>Low fuel light FIR 202013</b>          | <p><b>05/24/2020 N407PA</b></p> <p>During the pre-start/run-up checks, the Fuel Low light came on and would not extinguish with 994 pounds of fuel on board. Reported to maintenance. Delay to customer about 1 hour.</p> <p>Initiated MEL 2841-02 For Fuel Low light. Awaiting time to troubleshoot. Then during troubleshooting after flight, discovered fault with fuel signal conditioner. Removed and replaced with serviceable signal conditioner. Aircraft returned to service</p>                                                                                                                                                                                                                                                                                                                                                     | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Move to open action items | Responsible Person |
| 202014                                    | <p><b>06/09/2020 N306MH</b></p> <p>About 0800, pilot was preparing to take passengers to Sharaton Mountain. On first attempt, after rolling the collective to induce fuel, the engine failed to light off. Start was aborted and pilot waited 60 seconds. On the second start attempt, TOT rose rapidly after fuel introduction. After noting rapid TOT rise, the pilot aborted the start again. After waiting the 60 seconds to try the third start, engine appeared to start normally with steady TOT rise. Only apparent discrepancy was that the first "peak" was close to 829 TOT and then the second peak was in the 10 second window. Second peak was around 850. TOT was dropping and beginning to stabilize when the TOT light came on after exceeding 10 seconds above 768. Flight was aborted.</p> <p><b>(maintenance comments missing)</b></p> | OPEN                      |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Move to open action items | Responsible Person |
| Transmission replacement                  | <p><b>06/13/2020 N312MH</b></p> <p>XMSN chip light illuminated while advancing throttle to 100% RRPM. Pilot contacted the Chief Pilot and Lead Mechanic. All three xmsn chip detectors were removed, cleaned, and reinstalled. One small hair like particle was found on the lower xmsn chip detector. After reinstallation, the leak check was performed. No leaks were noted so 20 minute "penalty run" was performed and the chip did not illuminate again.</p> <p><b>07/12/2020</b></p> <p>XMSN Chip light illuminated while in cruise flight at 75% torque. Pilot reversed course and then the light went out. Aircraft was returned to Fairbanks, Metro field without further chip lights</p> <p>Drained transmission oil replaced oil filter w/serviceable new. Serviced with 555 oil, 20 minute found run, no recurring chips</p> <p><b>07/19/2020</b></p> <p>Transmission chip light illuminated during cruse flight. Pilot notified security and returned to PS9. Removed 3 each transmission chip detectors, lower chip detector had sliver that was longer than 1/8in. reinstalled chip detectors and performed 20 min penalty run. Flew aircraft back to Fairbanks. Aircraft grounded and transmission replaced with serviceable unit. Aircraft returned to service.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b> Awaiting teardown reports.</p> | Open                      |                    |
|                                           | <p><b>06/24/2020 N600MH</b></p> <p>#1 Engine oil temp was erratic in flight and on the ground. Found Eng. oil temp bulb faulty. Ended in replacement warranty part. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Closed                    |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                    |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Move to open action items | Responsible Person |
|                                           | <p><b>07/06/2020 N308MH</b></p> <p>At 0951 on 7/6/2020, An Alyeska baseline worker exited the aircraft on the ramp. When he shut the left main cabin door, the plexiglass cracked, and several pieces broke out of the window. The mechanic was on hand to assess and make a temporary fix. This allowed the aircraft to continue to support the Right of way/Deployment Spill exercise which was already in progress. The down time was negligible. Applied Tape fix to affected window. A new part (LH Aft Slider Window) has been ordered. New window installed on site at a cost of \$1751. Aircraft returned to service.</p> | Closed                    |                    |
|                                           | <p><b>07/07/2020 N600MH</b></p> <p>The airstairs had an open light flicker, When the mechanic went to adjust the contact it broke off in his hand. Ended in a replacement warranty part. Aircraft returned to service.</p>                                                                                                                                                                                                                                                                                                                                                                                                        | Closed                    |                    |
|                                           | <p><b>07/09/2020 N316MH</b></p> <p>On BLM, job; the six pin headset drop cords were found to be missing. The Pilot, the helicopter manager and passengers decided that the flight could safely occur without the interphone system. Pilot informed the Chief Pilot. Drop cords were delivered by company vehicle the next morning. Crews adjusted the plan so that the Day 2 mission was completed the first day (and vice versa) so mission was changed but not delayed.</p> <p>This resulted in CAS Memo O-20-01</p>                                                                                                            | Closed                    |                    |
|                                           | <p><b>07/13/2020 N600MH</b></p> <p>Fuel indicator for the non-installed wing tip tanks indicated erratically. Have warranty fuel conditioner on hand for replacement. Issue has not happened again. Aircraft returned to service.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>Fuel conditioner from Viking was sent up on warranty but not used.</p>                                                                                                                                                                                                                                       | Open                      |                    |

| Notable A/C items since last CASS meeting |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                    |
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| Item                                      | Notes or Preventable measures to prevent this from occurring again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Move to open action items | Responsible Person |
|                                           | <p><b>07/13/2020 N600MH</b></p> <p>ESIS will not indicate in headed mode accurately above 70N IAW Manufacture. Looking for verbiage from Viking to address this issue in the form of a bulletin.</p> <p><b>July 30<sup>th</sup> CASS Meeting moved this to an open item.</b></p> <p>Pursuing remediation for system. More to follow</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Open                      |                    |
| <b>Engine idle adjustment</b>             | <p><b>07/24/2020 N320MH</b></p> <p>During previous flying day the NG RPM was below minimum range at idle as day and job progressed. The following day, NG adjustment was attempted but due to the overly sensitive Augusta adjustment screw, the idle RPM was now 78% NG and 100% N2/NR at "idle" throttle setting. After 2 or 3 aborted starts due to the increasing N2 &amp; NG, above normal range, one more start was completed, allowing the numbers to stabilize where they would (within range). The adjustment screw was turned down to the proper setting of 61%, +/- one percent at idle and confirmed in EEC and MEC throttle modes. Follow up checks included transients to flight idle and back in order to check that NG was within range upon returning to ground idle. One additional runup was completed to confirm normal operations. Delay to customer was 5 hours.</p> <p>Pilot reported NG below minimum range. Prior to adjusting NG RPM, safety wire on locknut was removed &amp; locknut was loosened IAW Pratt &amp; Whitney manual. After Pilot started and brought engine to 100 % RRPM, he returned it to idle which showed 71% NG RPM. Idle speed was reduced to 61% on idle screw on fuel control. NG was rechecked in EEC mode then in EEC mode &amp; throttle was set to flight. NG was in Normal limits. Throttle was then set to idle, but pilot observed NR and N2 increase. Pilot completed emergency engine shutdown. With engine shut down, fuel control adjustment screw was set to original position. Engine was started. NG idle was 78% at 100% NR. Fuel control adjustment screw was turned approx. 2 full turns CCW to obtain 61% NG. Aircraft returned to service.</p> | Closed                    |                    |

|                                                       |
|-------------------------------------------------------|
| SDR,MIR,MDR, not listed on the notable A/C items list |
|                                                       |

| GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p><b>07/16/20</b> Battery cart charging in the hanger experienced battery overtemp/runaway. Burning smell was noted at 7am and the source was tracked to the Red Box battery start pack. The pack was plugged into the Red box charger and was smoking. The pack was moved outside to a safe area.</p> <p>After the pack was opened it was noted that both batteries were deformed by heat. Red Box (Manufacture) was notified and we are working on a warranty clam and replacement batteries.</p> <p>Timers were added to the wall chargers so GPU's and batteries will not be plugged in overnight in order to mitigate risk of fire.</p> |

| CANS, CAS MEMOS not listed on the notable A/C items list                    |
|-----------------------------------------------------------------------------|
| CAN 20-01 – AD2020-02-11 – 412 inverters                                    |
| CAN 20-02 – SB 119-098 – collective tube                                    |
| CAN 20-03 – ASB412-20-180 – Tailboom left hand fin spar, inspection of      |
| CAN 20-04 – ASB412-20-181 – Main rotor expandable blade bolt, inspection of |
| CAN 20-05 – SB119-105A – Verify proper tail rotor installation              |
| CAN 20-06 – AD2020-12-10 – 412 tail rotor blades                            |
| CAN 20-07 – AD2020-13-02 – Verify proper tail rotor installation            |
| CAN 20-08 – ASBBO105-40-108 – Pilot and Copilot collective guards           |
| CAN 20-09 – ASB206L-20-184 – Tail rotor drive shaft, inspection of          |
| CAN 20-10 – AD2020-15-16 – tail rotor blade bolts, reduction of life        |
| CAN 20-11 – AD2020-16-10 – Seat belt clip, removal of                       |
| CAS Memo M-20-03 – MHI GMM Rev 7                                            |
| CAS Memo O-20-01 – ICS cords and headsets                                   |
|                                                                             |

| Teardown reports       |                |                          |
|------------------------|----------------|--------------------------|
| Aircraft and item name | Reason removed | Tear down report finding |
| None                   |                |                          |

| Recent AD's and manufactures bulletins not listed above |          |             |
|---------------------------------------------------------|----------|-------------|
| Number                                                  | Aircraft | Description |
| None                                                    |          |             |

| Other Notable Non A/C items since last CASS meeting |       |                           |
|-----------------------------------------------------|-------|---------------------------|
| Item                                                | Notes | Move to open action items |
|                                                     |       |                           |

| AOG's for 2020                               |
|----------------------------------------------|
| 1. N320MH – 03/10/20 – engine overspeed      |
| 2. N320MH – 03/30/20 – Fuel control          |
| 3. N326MH – 04/22/20 – G/B chip light        |
| 4. N312MH – 05/20/20 – Oil shaft and housing |
| 5. N306MH – 06/09/20 – Engine overtemp       |
| 6. N328MH – 07/13/20 – Lower bridge damper   |

| AOG's for 2020 |
|----------------|
| 7.             |

| AOG's for 2019 by Location |   |
|----------------------------|---|
| PS4                        |   |
| PS5                        |   |
| MTF                        | 3 |
| GRB                        |   |
| Tonsina                    |   |
| VDZ                        | 1 |
| HOM                        |   |
| Kodiak                     | 1 |
| Akutan                     |   |
| Coldfoot                   |   |
| Deadhorse                  | 1 |

| NEW OPEN ACTION ITEMS | INITIATED BY | RESPONSIBLE PERSON | DEADLINE | CLOSED |
|-----------------------|--------------|--------------------|----------|--------|
|                       |              |                    |          |        |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Repeat Finding: Tool Control:</b> Tool control is still an issue in Fairbanks hanger for maritime helicopters. Maritime is not following their own policy on consumable items as they were present and toolboxes and on accounted for in personal drawers.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters mechanics are following documented company tool control policy to include specific areas such as consumables in tool boxes to meet the intent of AOG guidelines section 4.4.9.</p> | <p>There is a very mature tool control program at Maritime. The GMM prescribes the on-shift and off-shift inventories which are being accomplished by mechanics and also spot checked by maintenance leads and Q&amp;S. One consumable item to which there was some confusion was spools of aircraft safety wire. This is being allowed into tool boxes in a shadowed position as with other tools. Photos evidences of daily inventories, shadow boxing and actual tool drawers attached as exhibits 1905201H (#1-#5). Disagree with this as a high risk item. Maritime has had only one FOD incident in five years which involved a customer having access to the aircraft and leaving a rag on the aircraft.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p> |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Repeat Finding: FOD control.</b> During walkthrough of the Maritime Helicopters maintenance facility it was noted that FOD was present in company tool boxes, and does not meet the expectations of ExxonMobil Aviation Services for FOD control as outlined in the AOG paragraph 4.4.10.</p> <p><b>Recommendation:</b> Ensure that FOD programs meet the intent of the ExxonMobil AOG section 4.4.10.</p>                                                                                                                                                                                                       | <p>Spot checks are ongoing. CAS Memo produced and attached as exhibit 190502H #1 regarding FOD Program Promotion.</p> <p><b>Closed by auditor, expect similar writeup in current audit.</b></p>                                                                                                                                                                                                                                                                                                                 |
| <p><b>Finding: Incident and Hazard Reporting.</b> During the review of the Safety Management System (SMS) program for Maritime Helicopters, the answers provided to the Advisors' questions indicated that the incident and hazard reporting system is not effective, and is not being tracked in the Maritime Helicopters SMS system.</p> <p><b>Recommendation:</b> Work to further refine the incident and hazard reporting program and begin tracking and trending of reports. This can be done by the use of safety promotion, training, and increasing the general understanding level of the SMS as a whole.</p> | <p>Not certain about the comment here. Enclosed are exhibits 190501 (#1-#3). The Flight Irregularity Report and the Ground Occurrence Reports have good participation and tracking from the initial incident through management review at the quarterly Continuing Aviation Surveillance System Meetings' Safety Review. FIRs and GORs are also distributed to the workforce in the form of the quarterly safety notes as part of Continuous Improvement and Safety Promotion</p> <p><b>Closed 05/15/20</b></p> |
| <p><b>Finding: Publication Control.</b> While conducting aircraft hangar inspection in Fairbanks, Alaska it was noted that printed publications were present in aircraft tool boxes which is against Maritime Helicopters publications control policy.</p> <p><b>Recommendation:</b> Ensure that the policy is being followed as written, and copied publications are not present in tool boxes.</p>                                                                                                                                                                                                                   | <p>There was a single evidence of a mechanic whom had printed a page from the Bell manual to accomplish a task and then not destroyed the copy. GMM reference changed to include the printing of "uncontrolled copy" footer on all technical manual reproduction. Exhibit 190503M #1</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                          |
| <p><b>Finding: Aircraft Logbooks.</b> During review of aircraft logbooks it was noted that aircrew preflight signature acceptance documentation was missing.</p> <p><b>Recommendation:</b> Ensure that pilots are following logbook documentation procedures for acceptance of aircraft regarding pre-flight.</p>                                                                                                                                                                                                                                                                                                      | <p>CAS Memo attached to stress completion of records and will also include the system for changing errors made in aircraft logbooks associated with finding 190505L</p> <p>Exhibit 190505M #</p> <p><b>Closed 05/15/20</b></p>                                                                                                                                                                                                                                                                                  |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Corrective action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Finding: Emergency Response Plan.</b> During review of the Maritime Helicopters emergency response plan program it was noted that expectations do not meet ExxonMobil AOG 10.2.1 guidelines. There was no documentation on drills, and how they manage the deficiencies noted during drills.</p> <p><b>Recommendation:</b> Ensure that the emergency response plan drill deficiencies are identified, and assigned to personnel for rectification with target dates for completion.</p> | <p>Discussed the ERP addition to the iAuditor program. (Exhibit 190506M #1). It was also discussed that ERP has been added to the Safety Portion of the Quarterly CASS Meeting with the complete Safety Committee attending. Management participation in ERP has been positive and ERP will be added to regular audit schedule. ERP is still discuss at all indoctrination Training and (now) annual instead of biannual safety training</p> <p><b>Recent audit Exxon witnessed ERP, satisfied.</b></p> |
| <p><b>Finding: Audit Plan.</b> During a review of the Maritime Helicopters quality assurance program it was identified that no annual audit plan exists, and no tracking of audits was available.</p> <p><b>Recommendation:</b> Create an annual audit plan, and tracking system to ensure scheduled audits are completed on an annual basis.</p>                                                                                                                                             | <p>Audit plan has always existed and <i>was previously</i> more focused on a manual system with results entered into an Excel format. Now, with iAuditor (discussed with Aviation Advisor and on the <i>suggestion</i> of the aviation advisor) the audit plan is stored in iAuditor. Exhibit 190507 #1</p> <p><b>Closed</b></p>                                                                                                                                                                        |
| <p><b>Finding: Risk Register.</b> During review of the Maritime Helicopters quality management program it was noted that there was no audit feedback to the risk register to identify new risks in the Maritime Helicopters operation.</p> <p><b>Recommendation:</b> Ensure that the audit function has a tie back to the risk register to ensure risk identification and risk mitigation for the quality management system that meets the intent of the ExxonMobil AOG section 2.0.3</p>     | <p>Finding Under Review. Having added the Safety Review portion to the quarterly CASS meeting. The “management involvement and feedback” is being accomplished.</p> <p><b>Closed</b></p>                                                                                                                                                                                                                                                                                                                |
| <p><b>Finding: Shelf Life Control.</b> During a review of the Maritime Helicopters spares department items were identified that were past shelf life, and did not match dates being tracked in the stores control system.</p> <p><b>Recommendation:</b> Ensure that all items entered into the stores control system are entered accurately, and match shelf life dates on parts that are on the shelves.</p>                                                                                 | <p>There was a single item that was transcribed into the CALM program improperly. It was not expired during the audit visit and the monthly, shelf life item inventory would have caught the mistake. Exhibit 190501L #</p> <p><b>Closed from previous audit.</b></p>                                                                                                                                                                                                                                   |
| <p><b>Finding: SMS training.</b> During the review of the SMS program it was noted that SMS training is accomplished every two years. Given the findings concerning incident and hazard reporting, the Advisor felt training on the Maritime Helicopters SMS could be stronger.</p> <p><b>Recommendation:</b> Conduct SMS training annually.</p>                                                                                                                                              | <p>Quality &amp; Safety has added SMS training on annual basis</p> <p><b>Closed</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Recent audit maintenance findings                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Corrective action                                                                                                                                                                                                                                                                                                 |
| <p><b>Finding: Stabilized Approach.</b> During a review of the Maritime Helicopters operations manual it was noted that the stabilized approach rate of decent exceeds the AOG allowable of 750 ft. /min.</p> <p><b>Recommendation:</b> Ensure that the Maritime Helicopters operations manual notes that if a rate of decent exceeds the AOG maximum, that a verbal briefing is conducted to meet the intent of the ExxonMobil AOG section 6.11.3.d.</p> | <p>The Maritime SOP has been revise to reflect the policy of AOG's 750 ft./min rate of descent for stabilized approaches Exhibit 190503L #1 (2 Pages)</p>                                                                                                                                                         |
| <p><b>Finding: PED Policy.</b> During a review of the Maritime Helicopters operations manual it was noted that there is no personal electronic device policy.</p> <p><b>Recommendation:</b> Ensure that Maritime Helicopters creates a personal electronic device policy, and inserts it into the current operations manual to meet the expectations of the AOG section 6.11.6.</p>                                                                       | <p>Maritime SOP Changed to include a more AOG compliant policy regarding Personal Electronic Devices. Exhibit 190504L #1</p> <p><b>Closed</b></p>                                                                                                                                                                 |
| <p><b>Finding: Dangerous Goods Storage.</b> During a review of the Maritime Helicopters spares department it was noted that dangerous good items are not segregated on the shelves from standard spares.</p> <p><b>Recommendation:</b> Ensure that all dangerous goods items are segregated in a dangerous goods area in the store room.</p>                                                                                                              | <p>Dangerous Good Categorization is for shipping of items aboard aircraft under IATA. The flares in question were in their original packaging and stored IAW the SDS. (190509L #1). Flares have been moved to a military style ammunition can on the insistence of the aviation advisor.</p> <p><b>Closed</b></p> |
| Suggested maintenance training for next year                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                   |

| Safety Management System             | Evidence                                                                                                                                                                                                             | Effectiveness                                                                                                                                                                                                                                                                                           |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Response Plan-Old          | Probably need to do an exercise with the Koala/B412 primary/backup---self supported ERP up at OSI?                                                                                                                   | Shortened Koala season. Only tabletop discussions .                                                                                                                                                                                                                                                     |
| New                                  | <p>Twin Otter ERP on 15 July<br/>Emergency Response Exercises added to iAuditor.<br/>Twin Otter was test bed</p> <p>Current Pocket Checklist is Version 24 (blue) still working site specific EPC for Twin Otter</p> | <p>Need to shore up relationship on services for Emergency Response at Point T. Towbar? Placed in iAuditor for follow on.<br/>Work with Mark H. on Follow up/corrective actions. Do not close audit until DOO approves closure</p> <p>Scott F. had a version. Just need to finalize Prudhoe version</p> |
| Station Checklists-Audit Program-OLD | COVID has pretty much knocked out traveling for audits, but iAuditor is catching a lot of corrective actions.                                                                                                        | Schedule Alyeska Audits when able.                                                                                                                                                                                                                                                                      |
| NEW                                  | <p>Homer Base Audit</p> <p>Need to add item in iAuditor for Station Audit to check inventory on Spill Kit Items</p>                                                                                                  | <p>TBD</p> <p>In Progress</p>                                                                                                                                                                                                                                                                           |

| Safety Management System |     | Evidence                           | Effectiveness                                                                                                |
|--------------------------|-----|------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Management of Change     | OLD | AW119 Closed out? One year Review? | Work Need Status update from Steve?                                                                          |
|                          | NEW | Other new Aircraft/Systems?        | Aircraft already working, ask Steve to just review effectiveness of MoC?                                     |
|                          |     | FOQA/FDM/HFDM                      | MoC for NVG operations started by D. Jones (review/complete?)<br><br>Will need program development for Exxon |

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Overall Safety Effectiveness-OLD | <p>Incident Reporting improved this quarter</p> <p><i>New BBS coming?</i></p> <p>Awaiting Exxon audit results</p> <p>Not getting a lot of feedback from toolbox talks or written documentation</p> <p>Fire Drill in Fairbanks was 29 May 2020</p> <p>Safety Awareness/Training: Alyeska &amp; Exxon requiring certain safety subjects on Elite/OSHA/Flight Safety topics.</p> <p>QA/QC training for EXXON was proposed for Mackey/Estep...Thought of using Six Sigma online through Aveta U.</p> | <p>Effectiveness<br/>Still a bit slow on GOR/FIRs, but even getting some input from new employees on these: <i>Update: great effort on iAuditor and most sites making regular monthly station audits</i></p> <p>Behavior based Safety Observations-Program on hold as ISNetWorld okay with us using Alyeska Program. Add Anonymous Reporting to Toolbox Talks and Safety Letter (update-waiver from Alyeska on BBS) (update: anonymous reporting has been added to all indoc briefs for over a year)</p> <p>Still awaiting ASRAP from recent Chuck Ross visit. First telecon on 29 July decided to await full ASRAP. Many corrective items already accomplished or in progress.</p> <p>Keep stressing Toolbox talks! <i>(record)</i></p> <p>Need Fire Drill at Homer.</p> <p>SMS Training to be added annual instead of biannual (already done for Alyeska)<br/>Annual SMS training successful with Alyeska personnel. Add Homer when able.<br/><i>Added ThinkHR to Safety Training and that program is continuing pretty well. Exxon accepting that for Safety Training. Great job by Tiffany!</i></p> <p>C. Ross was going to check with higher up to see if Six Sigma meets</p> |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Safety Management System | Evidence | Effectiveness                                                                                                                                    |
|--------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |          | <p>the AOG requirement. That “check” is now two weeks old.</p> <p>Right now Six Sigma green belt is 399 online. Suggest that...DOO Comments?</p> |

| Flight Operational Quality Assurance (FOQA) Steering Committee:                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>DHC-6-400 is active as of 10 Jul 20. Event validation is ongoing at this time. Several events will need to be modified in order to ensure flight operations are being conducted within the SOP. Modified events will be implemented during August 2020 as we continue event validation.</p> |

|                                 |          |
|---------------------------------|----------|
| Next CASS meeting scheduled for | 09/29/20 |
|---------------------------------|----------|