



Maritime Helicopters

End-of-Year Quality & Safety Notes 2019



2019: More Expansion, More People

Lets just call 2019 a year with many changes. We're bigger, with more people, flying more aircraft. We have more customers with more & different standards for Operations, Safety, & Quality. We're using an automated Quality Auditing program now (iAuditor) and more customers are using programs like ISNetworld for contract compliance.

Because of such changes, training time has increased, training subjects have increased (we'll have to add CyberSecurity Training to this year's endeavors, and the business has gotten more and more complicated.

Safety Management System training has become an annual requirement (several customers) and we have incorporated that into the 2019 Alyeska Training. The Homer crew will have to listen to my melodious, yet droning, classes at a time to be determined.

Sorry this is a little late. I hope you all remember 2019 after the Superbowl Weekend which just happened. I actually hope you remember last weekend. Anyway, this letter has set half finished on my desktop for too long now. If I've forgotten some subjects which I said would be in this quarter's letter, then I am sorry and I will catch you up in April.

Cheers!

2019 Accident/Incident Wrap Up

How to summarize, categorize, and find lessons learned from all the incidents in 2019? Confusing at best. You'll find that with as broad an operation as we are running here, that we have a lot of unrelated incidents and that is hard to trend or generalize. And that might be a good thing. We had some serious incidents this year, but zero accidents. We had no recordable injuries, which is good, although we did have a first aid injury that could have grown to something much worse if it were not intensely managed by everyone concerned. In a few words, here is 2019...

- There were 9 Ground Occurrence Reports and 16 Flight Irregularity Reports file in 2019
- Although that is down from 2018, that could reflect less incidents OR less reporting
- Of the ground occurrence reports, 5 involved all or mostly human factors, 3 were maintenance related and 1 was a combination of human factors and maintenance issues
- Of the human factors, two reports were examples of improper installation (damage to component involved in removal or replacement) and one was involving improper set up of a task which caused a fuel leak.

- Two of the GORs involved customers damaging aircraft while loading. We must do a better job of watching customers when they are “helping”
- In the Flight Irregularities, 6 of 16 FIRs were aircraft damage or customer delay due to Human Factors
- Of those 6 FIRs with human factors, there were (arguably) three due to customer conduct on the flight or damage due to customers (e.g. one customer ‘braced’ himself on the locked-out pedals and damaged the pedal mounts themselves.)
- A couple of the human factors incidents had to do with improper maintenance back on the ground, that led to in flight emergencies. These are the incidents which we must study and learn, study and learn. Please see **FIR 201915** listed later in this month’s letter.
- One FIR was submitted to report another company, operating on a public airfield, not talking to anyone nor using the CTAF at all. If you find these “out in the world”, please report them through the FIR or other conduits so we can correct our state’s aviation safety. The pilot in this incident had the time to go talk to the other pilot and get an “on-the-spot” correction.

Exxon Drug and Alcohol Program

Surprise! Our relationship with Beacon Health for our drug and alcohol testing program will change slightly this year. In addition to pre-employment, random, and post incident testing we are going to have to add another pool of employees for Pipeline administration [PHMSA | Pipeline and Hazardous Materials Safety Administration](#). That is Due to several of our pilots working for Exxon, performing the Pipeline overflights & inspection on the North Slope. The practical upshot of all of this is that if you are doing this work, you may get UA tested a little more often and for a few more drugs than are required for DOT/FAA.

Keep hydrated, friends and neighbors!

The 2019 FOD Revolution

Okay, maybe not a revolution, but we did learn that some of our customers have some very high visions of what a FOD and Tool Program should look like. I don’t want to go into all the details of the year’s audits but let me say this. Anything that is not an accounted for tool, by the photos and inventory, should not be in your toolbox. That includes lint, fuzz, pieces of string or today’s newspaper (although today’s paper could be in your personal drawer). What *can’t* be in your personal drawer is any tool or expendable item, like zip ties or safety wire.

These external audits are happening closer and closer together. We can’t rely on some type of “advanced warning” that Big Brother is coming to race out to the toolboxes and whitewash them at the last minute. So, help us out, if its Isaac, Brent, and I coming out to audit toolboxes, or one of our customers auditors, lets make sure they are all inspectable every day.

Employee Assistance Program

There has been a lot of talk, and some audit findings regarding Maritime adopting an Employee Assistance Program. Part of 14 CFR Part 120 (https://ecfr.io/Title-14/se14.3.120_1115) the Employee Assistance Program is part of the FAA’s oversight in the area of Drug and Alcohol Programs. What this means in simple language is, that if the government and the Company are going to require you to participate in a Drug and Alcohol Program, that we must be able to provide counseling in regard to those issues.

So, with that, Maritime through AETNA, will be adding an approved EAP to our employee benefits. Heidi’s office will be putting out a flyer and there will some in-house education on the EAP. Most of this program is to ensure that every employee has knowledge of “*The effects and consequences of drug use on individual health, safety, and work environment*”;

Stay Tuned!

More iAuditor fun

November and December showed our iAuditor inspections finally being performed by all of our sites AND, on time! I had some worry from several customers that installing this new system in May and not having 100% compliance for six months was a long time. I have been assured that this is pretty reasonable and most of our customers are happy with the results.

Improvements to future iAuditor inspections should include management getting to all the corrective actions for findings "failed items" that you have written up. We're working on it!

3E Corporation and Safety Data Sheets

I'd love to be able to say that everyone is using the 3E System and that people are fully acquainted with the safety data sheets for chemical substances they use on a daily basis, but I can see all the user statistics online and know that Hazardous Communication is something we think about, mostly, when we have an unknown chemical rash and don't know how it got there.

We keep Safety Data Sheets for two reasons. The first is for OSHA compliance, and that isn't the most important reason. HazCom keeps us safe by showing us the risks and how to mitigate them (PPE). If you aren't asking what kind of Personal Protective Equipment you need at any one time, and you deal with things like Zep Formula 50 or any Hydraulic Fluid you are probably endangering yourself.

FYI, 3E Company made me change the open Mechanics password to add a capital letter so please change your password to Maritime2015

SPILLS • EXPOSURES • POISONINGS

SDS

SAFETY DATA SHEETS

800-451-8346 or 760-602-8703

INFO TO HAVE WHEN CALLING:

- Product Name & Number
- Manufacturer Name
- Manufacturer Phone Number
- UPC Code

24 HOURS A DAY **7 DAYS A WEEK** **365 DAYS A YEAR**

3E COMPANY
A Vertak Analytics Company

FIRs/GORs for 4th quarter 2019

FIR 201914 8/09/2019/1100 407PA XMSN Chip

Main Transmission UPPER chip detector light illuminated.

On 8/9/2019 at 0830 hrs. on short final into Tiekel Repeater, the xmsn chip light illuminated. After performing normal engine shutdown, the pilot contacted maintenance personnel and then pulled the upper chip detector probe. Pilot found a small metal sliver. After cleaning and replacing the probe, a five-minute ground run was performed with no anomalies. The customer (At&T) was not delayed.

Inspected and cleaned chip detector. Performed leak/serviceability checks. No faults.

Great communication with the rear is the heart and soul of chip detector faults.

FIR 201915 10/12/2019/1000 319MH Loose Oil Line

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&S manager who then coordinated crew retrieval. (end of pilot comments). 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)

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.

GOM is being changed to include second inspection by second mechanic or pilot in this type of repair.

(aircraft corrective action missing)

FIR 201916 10/24/2019/0940 319MH XMSN Chip

Xmsn chip light illuminated in flight while on pipeline security job. Pilot reversed course to land at Alyeska Pump Station 8. Chip detectors were removed using pilot remote maintenance authorization after called Fairbanks Maintenance. A small, threadlike sliver was found on the chip detector (lower) plug. Chip detectors were wiped clean, reinstalled, and then a leak check was performed per Maritime GMM with no faults noted.

Back at Metro Field after flight back (terminated mission), mechanic checked the main xmsn chip detectors, no metal was found. FOD check was performed and then a leak check was performed with no additional faults/chips found.

GOR 201905 N320MH Jet Fuel Spill

During the replacement of the fuel pump on the AW119, the mechanic removed the fuel transfer pump with approx. 220 kg of fuel. Approximately 80 kgs of fuel emptied on the floor of the hangar. DAC crews and Maritime crews immediately set to cleaning the spill which did not discharge beyond the hangar floor. The cost of consumables to DAC was \$283.00.

We all know to check the manuals to verify that before doing work, we check the pre- task aircraft configuration...or do we?

GOR 201906 Bell 412 Emergency Float Test

During the 2-year special inspection of the emergency float system, when the manual release handle was pulled, the cable attaching the handle to the float valve broke. Upon inspection of the cause of the manual release cable breaking, mechanic noticed that the bellcrank that is mounted by the side of the pilot collective stick was contacting the floor making it difficult to pull the release cable. The mechanic attempted to pull on the release cable forward of the bellcrank and found that the float valve lever still would not actuate.

Another mechanic noticed while pulling on the cable that the float valve lever was jamming up on a screw that was installed in the float valve clevis. This screw was installed at the manufacture as a safety to prevent inadvertent discharge of the valve assembly. Once the screw was removed, mechanic was able to pull on the manual release cable and deploy the emergency floats. Once the floats were fully inflated, first mechanic noticed that the LH mid float bag did not deploy properly and was wedged up under the flight step. after about 20 minutes of the floats being inflated, the LH mid float bag ruptured, splitting the aft chamber of the mid float bag open. It was also noticed that the RH aft float bag was leaking air out of the forward chamber. The cause of the leak on the RH aft float bag was due to the bag contacting a clamp on the aft crosstube, which is used to secure the float lines to the crosstube.

We learned a couple of lessons here. First, when we get aircraft from shipping or ferry, we almost have to do a 100% inspection to ensure that something wasn't done in the preservation or safety process to change the aircraft special equipment configuration. The second lesson is the specific fault on the float contact with he flight step. That's not in any manual, and I would guess that anyone who had this aircraft configuration with floats and step had

to learn this lesson the hard way.

201907 N326MH Broken Slider Louver

Pilot was briefing customers on the day's flight and safety, when one customer noticed a crack in the window louver. Mechanic was called in and the decision to remove the louver was made, to avoid it coming off in flight. Customer was delayed about 15 minutes.

Removed OEM window & installed TECH TOOLS plastic replacement window. P/N BO105.1005.1 IAW BO105 MM and TECH TOOLS PMA Approval Letter dated 21 July 2004

Make sure that customers know that they can speak up if something doesn't look right!

201908 N316 MH, Tail Rotor Servo Installed Incorrectly

Aircraft Tail Rotor Servo was being worked on due to several failure "codes" in flight or during runups. The aircraft has the high-altitude tail rotor modification. The mechanic moved the old servo and installed the new one. Pilot was called to perform the FOD check and that was done, looking at the servo from both the from the aft (from tail boom) and from forward, from the cargo compartment. Pilot and mechanic went to perform the MOC flight to check the operation of the tail rotor servo. It was noted that forward and aft cyclic seemed to require more pressure than normal, even though cyclic friction was off all the way. The aircraft was returned to the hangar for troubleshooting. Maintenance informed pilot that the servo had been installed incorrectly. The tail rotor servo bell crank was damaged beyond repair by this mis-installation and use. Damage was due to the control rod-end installation on the bottom of bellcrank instead of the top.

New Bellcrank was installed and MOC completed with no faults.

This was found on the MOC flight, and so never got close to hauling a customer, but this also speaks a lot for having that second set of eyes on some repairs.

Initial Quality & Safety Training Required!

As I have missed some of you on the initial indoctrination quality and safety training, please be patient. One more reason for a trip to Homer. But that black mark in Bamboo does not go away until I've had some time to sit and discuss our Q&S Programs with you. This is a requirement of many of our customers.

ISNETWORLD (A quick primer for highly inquisitive Maritime employees) (Kept in the letter for another month)

Just because many of you don't deal with the customer quality requirements, I thought I'd attach screenshot from ISNETWORLD so you can get the gist of the daily *QUALITY* requirements we comply with.

The company itself is a third party, who is a: **Global Leader in Contractor Management Services**
ISNetworld is an online contractor and supplier management platform of data-driven products and services that help manage risk and strengthen relationships. ISNetworld helps reduce unnecessary duplication associated with traditional qualification processes.

All that means is they compare our customer quality goals and processes to ours and send us corrective action emails if we don't look identical to those customer's. If you don't think that "Quality" is graded, take a look at our report card. Down the right side of the following screenshot, you can see our customer whom use ISN and the grades we currently have. But this isn't like High School...If you don't have As or Bs, you can lose work for those customers. Everything we do goes into these grades, from accidents and incidents, to our self-auditing programs, our OSHA statistics (don't run with scissors!), and our insurance experience rates.

The screenshot of ISNetworld below, show the types of programs which are analyzed for one customer (in this case, Alyeska Pipeline Service Company). As you can see by the third column which shows the status of our programs, compared to Alyeska's, these statuses are always in a state of flux. The customer can add or subtract a program and to put it simply, we have to jump. ISN can find a deficiency, they can give us an exemption on programs we don't need, like Ammonia Awareness, or they can tell us we have to make our programs look like our customers.

Ammonia Awareness	US	Exemption Granted	
Behavior Based Safety	US	Deficiency Found	
Bloodborne Pathogens	US	RAVS Verified	
Cold Weather Safety/Cold Stress	US	RAVS Verified	
Disciplinary Program	US	RAVS Verified	
Driving Safety	US	Exemption Granted	
Fatigue Management	US	RAVS Verified	
First Aid	US	RAVS Verified	
Fit For Duty	US	RAVS Verified	
Hazard Communication (HazCom)	US	RAVS Verified	
Heat Illness Prevention	US	RAVS Verified	
Incident Investigation	US	RAVS Verified	
Injury / Illness Recordkeeping	US	Revalidate	Yes 
Ladder Safety	US	RAVS Verified	
Noise Awareness	US	RAVS Verified	
Personal Protective Equipment (PPE)	US	RAVS Verified	
Process Safety Management / Contractor Responsibilities (PSM)	US	Exemption Granted	
Risk Assessment	US	RAVS Verified	
Safe Return to Work	US	Exemption Granted	
Short Service Employee (SSE)	US	Deficiency Found	
Stop Work Authority	US	RAVS Verified	

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**MARITIME HELICOPTERS
PUBLICATIONS
ROUTING MEMORANDUM**

DATE: 02/03/2020

TO: All Employees

FROM: Quality and Safety Dept

SUBJECT: End of 2019 Safety memo

Please complete the verification of receipt below and return this form to the Records Department in Fairbanks via email to faiaadmin@maritimehelicopters.com or by fax to (907)452-4539

BY SIGNING THIS FORM I ACKNOWLEDGE I have reviewed and will comply with the memo listed above

EMPLOYEE SIGNATURE

DATE