Smart use for flight data

Our data analysts are current or former IPs

Searching for unknown hazards

Protecting Data Use

HEY, WILL THIS GET ME IN TROUBLE?

Numerous aircrew protections exist to promote the proper use of data used for MFOQA. The MFOQA process entails aggregating data from multiple flights before processing those data through customized software, and searching for trends that point to unsafe conditions that could lead to a mishap.

Occasionally, determining the cause of a trend may require evaluation of individual flights feeding that trend. In those cases DoDI 6055.19 and AFI 91-225 clearly state that data collected for or analysis generated from these programs (MFOQA, ASAP, LOSA) "shall not be used for monitoring personnel performance to initiate crew qualification downgrade or decertification, or to take adverse personnel action, including non-judicial." In cases where MFOQA, ASAP, or LOSA indicates, "an intentional disregard for safety, or that an intentional false statement has been made, the analysis or report no longer falls in the proactive aviation safety arena" and action may be taken by the commander.

That means that if an aircrew makes a mistake that is uncovered during data analysis, action will not be taken against the crew. On the other hand, if the data analysis identifies unusual activity that appears to intentionally violate regulations, commanders may use the information to conduct an investigation. If improper behavior is verified then the data can be used to support the appropriate response.

MFOQA

Military Flight Operations
Quality Assurance

MFOQA is the analysis of routine flight data to detect, measure, and mitigate hazards, while promoting the proper use of data for safety. It's about safety without the mishap! This 17-year old aviation safety initiative is overseen by the Air Force Safety Center at Kirtland AFB.

Monthly, we analyze approximately 200 GB of data from over 6,000 flights flown by over 1,300 aircraft. 12 MDS USAF fleets currently participate in MFOQA providing tailored products to 17 unique aircraft variants.

Former Air Force IPs under contract with the Safety Center analyze the flight data to detect mishap precursors and produce monthly reports for aircrew, operational leaders, and safety officers.

MFOQA reaches its full potential when used in conjunction with other proactive safety programs (ASAP, LOSA, AFCMRS, OSA).

DoDI 6055.19 and AFI 91-225 prohibits using MFOQA to monitor aircrew performance to initiate punitive or adverse action, except for instances of intentional disregard for safety, of course.

BENEFITS

- Learning the latest hazards at a specific location or hazards facing similar airframes and missions across the globe

- Validating effectiveness of tactics, training, and procedures by measuring what actually happens out in the system

- Comparing actual versus calculated aircraft performance data

- Providing insight on how tightly flights are following mission profiles

- Learning where unstable approaches and go-arounds are most likely to occur

- Detecting exact parts of profiles where over/under-loads, over-speeds, and over-temps are most likely to occur

- Measuring variations in mission accomplishment within pre-established limits in order to optimize processes

- Assessing whether a procedural change has improved operations or made things worse

- Working with <u>you</u> to customize analyses

KEY REQUIREMENTS?

1. Aircraft with the ability to record certain flight data parameters (ref: AFH 63-1402) and an unclassified access process to download the flight data.

2. An experienced pilot who can analyze the data to identify mishap precursors (AFSEC provides that).

3. A safety culture that protects aircrew when errors are made (a DoD requirement).

4. A command that knows how to use, action, and disseminate the provided analyses to manage risk.

WHICH USAF FLEETS BENEFIT FROM MFOQA?

In addition to 12 USAF fleets (17 unique variants), the MFOQA program plans and budgets for one new fleet a year pending technical capabilities, acquisition schedules, and MAJCOM priorities. Over the next few years expect to see the CV-22, F-15C/D/E, and the KC-46 participate in MFOQA. **MFOQA is required on all DoD aircraft fleets** unless a lead-command cost-benefit analysis has been completed that supports an exclusion memo with AF/A3 concurrence. Additionally, **anytime an MDS is modified, improvements to data collection must be identified to support MFOQA analysis and if not implemented a new exclusion memo must be approved.**

WHO ARE WE?

MFOQA falls under the Aviation Safety Division at the HQ Air Force Safety Center at Kirtland AFB, New Mexico. The MFOQA managers for the USAF oversee contract software engineers and flight analysts at the MAJCOMs who detect mishap precursors and help manage identified risk.

WHERE IS THE GUIDANCE?

Oct 2005: OSD MFOQA Implementation Memo
Feb 2014: CSAF Program Endorsement
Jan 2015: AFI 91-225, Aviation Safety Programs
Apr 2017: DoDI 6055.19
Mar 2019: GM to AFI 91-225

MFOQA MDS