



Helicopter Flight Data Monitoring

Identify flight operational risks before they result in an incident, or, worse yet, an accident!

HFDM is a systematic approach to accessing, analyzing, and acting upon flight data to identify and address flight operational risks before they pose a significant threat.

As a key component of a safety management system, HFDM is not just a reactive risk management strategy, but one that is also proactive and predictive; it enables you to control risk within your total flight operations environment.

HFDM Components

The principal components of an HFDM program may include:

- **Airborne Data Recording Systems**, which capture raw digital flight data onboard the aircraft. They may consist of equipment that interfaces directly with aircraft systems or use independent inertial sensors to capture parametric data. These systems may include any combination of lightweight aircraft recording systems (LARS), flight data recorders (FDR), quick access recorders (QAR), and multifunction data acquisition units (MFDAU).
- **Remote Data Stations (RDS)**, which are used to transfer raw digital flight data from the aircraft to the Ground Data Replay and Analysis System. The transfer is

accomplished by either physically removing the data recording medium (for example, a PCMCIA card) from the aircraft and inserting it into the Remote Data Station or using a wireless data link to transfer the raw digital flight data.

- **Ground Data Replay and Analysis System (GDRAS)**, which consists of flight data analysis, statistical reporting, and flight animation software. It transforms raw digital flight data into a usable format for processing and analysis. It then processes the data and detects events that are being monitored and tracked. It enables the generation of various statistical reports and the animation of flight data to help facilitate understanding of events that may have occurred.

Benefits of HFDM

Here are just a few of the benefits to be realized through an effective HFDM program:

- Helps identify areas of flight operations and crew performance to enhance crew training and performance by integrating those areas into the training programs thus maximizing training outcomes.
- Improved communication between light crew and management.
- Recognized cost savings through fewer incidents and accidents, fuel savings, and engine trend monitoring.

- Provides objective safety information that is not otherwise obtainable.
- Allows for the identification of safety issues and the development and implementation of corrective actions.
- Allows for the identification of operational trends, as well as flights operating outside standard operating procedures and safety limits.
- Helps identify causes of systemic problems that need correction through the use of aggregate flight data.
- Enables the animation of flights for better understanding of how and why certain events occur.
- Allows for the identification of maintenance issues and the development of improvements in operational procedures.
- Provides for increased aircraft availability due to operational improvements.

*We Can ...
We Will ...
We Must!*

Our Goal Is To Reduce The Civil Helicopter Accident Rate by 80%

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The FDM Process

The Generic FDM Process requires an HFDM program to:

- Collect and process flight data
- Validate and assess event data
- Store and protect flight data
- Contact flight crews when necessary
- Address repetitive willful non-compliance and reckless behavior
- Analyze and monitor trends and record results
- Periodically review results and make recommendations
- Communicate results
- Conduct both internal and external program audits

The Driving Force

Helicopter Flight Data Monitoring (HFDM) is:

“... a program to improve flight safety by providing more information about, and greater insight into, the total flight operations environment through selective automated recording and analysis of data generated during flight operations. Analysis of [HFDM] data can reveal situations that require improved operating, training, and maintenance procedures, practices, equipment, and infrastructure.” (FAA AC 120-82)

Flight safety is the driving force behind any HFDM program.

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Want to Learn More?

Please visit the International Helicopter Safety Team (IHST) website at www.ihst.org for additional resources, including the HFDM Toolkit designed to provide a summary of existing FDM guidance and to serve as a step-by-step guide to the implementation of HFDM, as well as the HFAP(P) Interactive Tool designed to provide interactive development of HFDM events based on available parameters. Also visit the Global HFDM Steering Group website at www.hfdm.org for valuable resources, including the document Helicopter Flight Data Monitoring: Industry Best Practice.

Be a Team Player! Join the IHST!



IHST.ORG

Also check us out on Facebook and Twitter!

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