



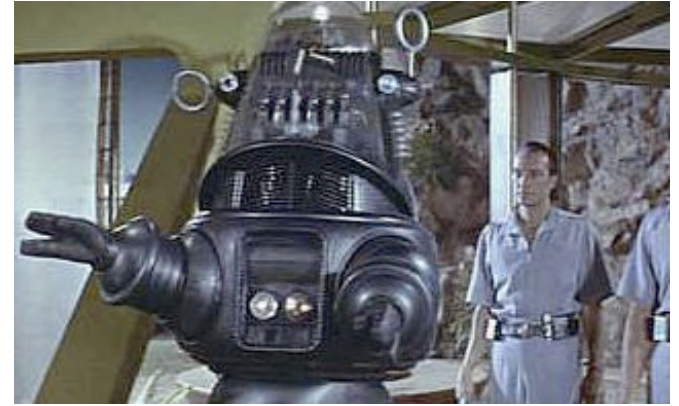
Helicopter Flight Analysis Profile Project – HFAP(P)

HELI-EXPO Helicopter Flight Data Monitoring Workshop
February 22, 2010

Background info – why?

- HFAP (P) is a project to provide guidance to industry in the following areas:
 - A base set of events for operators to begin a HFDM program (similar to AC 120-82) – it's only a start.
 - Another tool for the IHST HFDM Toolkit
 - A core set of common events to compare or share with other operators. (apple-to-apple comparison when appropriate) The next growth phase of aviation safety programs is information sharing (example: FAA ASIAS)
 - (P) Parameters – a listing of desirable recorded parameters versus those required by current regulatory guidance that is reactive (not proactive).

Caveat: HFAP(P) is not...a “standard”



“Danger, danger Will Robinson”

- HFAP(P) is not a “standard” to rest upon – this is “stage one” of a HFDM program’s development. (FDM requires a lot of work!)
- HFAP(P) is not a “standard” to be used as an audit tool or checklist to evaluate a program.
- HFAP(P) will not cover all aircraft due to available parameters.

HFAP(P) Breakout - Flight Plan

- Objectives
- Project Overview
- Operations Areas
- Initial ideas
- Other studies
- Open discussion





HFAP(P) Project



- ✧ **Phase 1** – Research (literary review, collection of industry event sets, available recorder parameters and HFAP (P) Breakout Session)
- ✧ **Phase 2** – Formation of industry peer group – we need your help!
- ✧ **Phase 3** – HFAP(P) Development
- ✧ **Phase 4** – Inclusion of HFAP(P) in IHST HFDM Toolkit (rev.2)

- ✧ **Rules:** Do whatever it takes, as long as it takes – just do it right!

Objectives



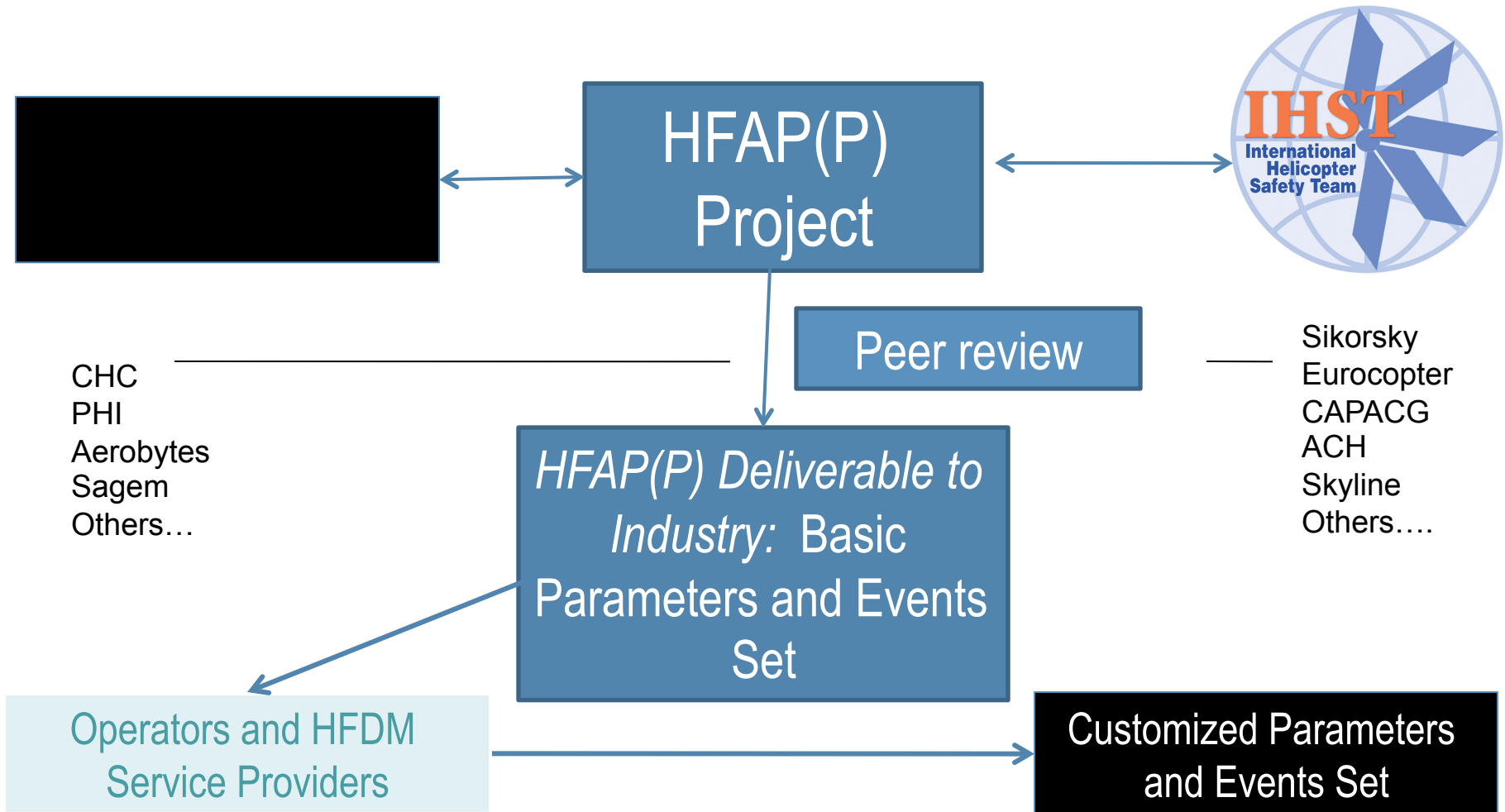
- Develop the “basic” set of events for 3 areas of helicopter operations. This basic set of events should be based on using sophisticated DFDR’s.
- A subset of these events will be designated for light recorders.
- If the typical DFDR doesn’t provide the parameters needed to capture an event – what parameters would be needed for future recorders?
- Identify future measurements and events to monitor.

Operations Areas

- HFAP(P)-GEN
- HFAP(P)-OGP
- HFAP(P)-HEMS



Initial Ideas



Initial concept requires cooperation and subsequent promotion by all stakeholders including operators, vendors, regulators, NASA, etc.

Phase 1: Initial Ideas

- **Phase 1** – Research (literary review, collection of industry event sets, available recorder parameters and HFAP (P) Breakout Session) – to include:
 - Fleet / Recorder Equipage Survey
 - Events Set / Parameter Survey
 - Not intended to establish standards
 - OTS / STC



Phase 2: Initial Ideas

- **Phase 2** – Formation of industry peer group – we need your help!
Small group – a composite of industry resources:
 - Operators (from each subset – OGP, HEMS, General)
 - Vendors – Recorders (P), Analysis Tools (Profiles)
 - Mentor – NASA (?) – “not their first time to the rodeo!”



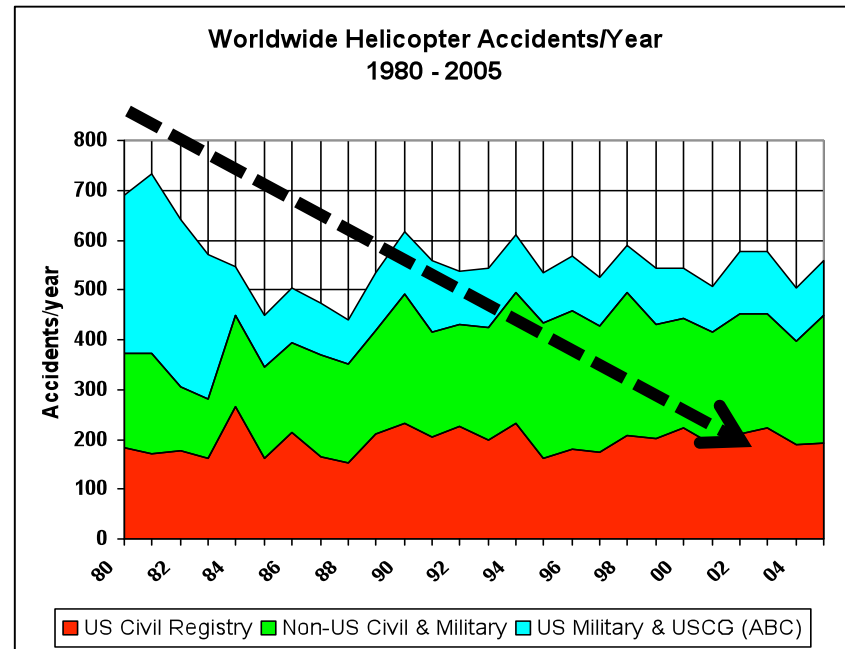


Phase 3 and 4: Deliverables



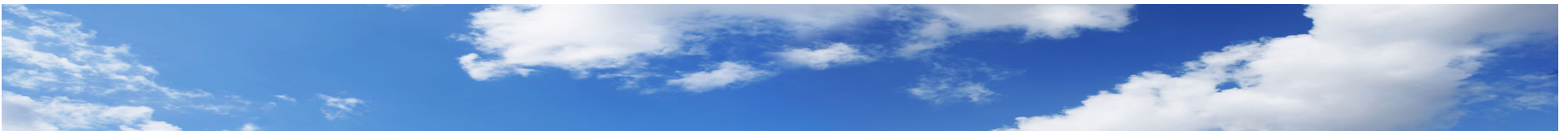
- ✧ **Phase 3 – HFAP(P)**
Development (utilizing our resources)
- ✧ **Phase 4 – Inclusion**
of HFAP(P) in IHST HFDM Toolkit (rev.2)

*that's why we're here!

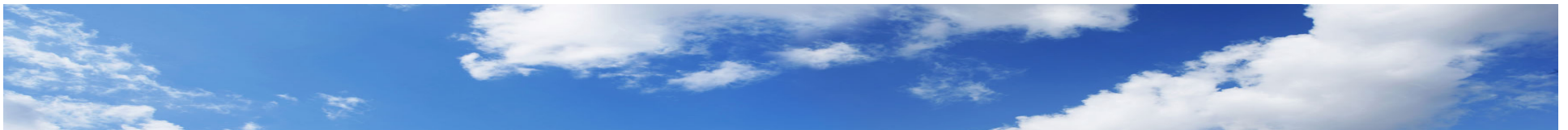


Other studies

- CAA 2002/02 and 2004-12
 - HOMP Trial;
 - British Airways provided flight data replay and analysis software;
 - Bristow Helicopters Limited fleet (AS332L and S-76) – FDR-equipped aircraft;
 - Parameters, events set and measurements;
 - Post-event severity level (0 to 10);

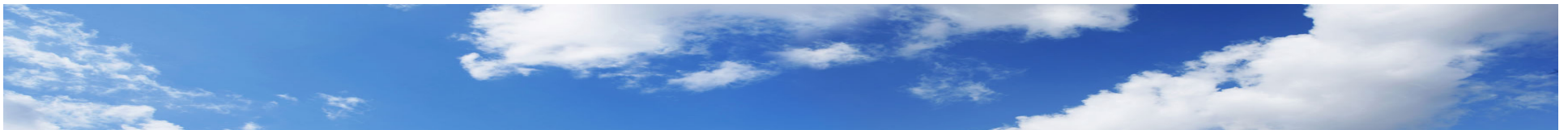


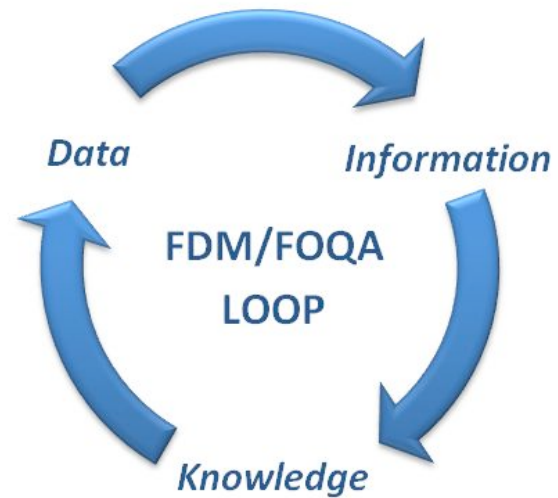
- CAA 2002/02 and 2004-12 (continued)
 - Concluded that the HOMP is feasible for any operator, resulting in safety improvement by implementing proactive measures to address safety hazards;
 - Recommended that all helicopters operators with FDR-equipped aircraft should implement a HOMP, incorporating the program into SMS; and
 - Recommended that helicopters operators should standardize the HOMP events set used by different operators where possible to aid the sharing of lessons learned, continue to refine the HOMP events, and continue to refine the HOMP measurements.



Other studies

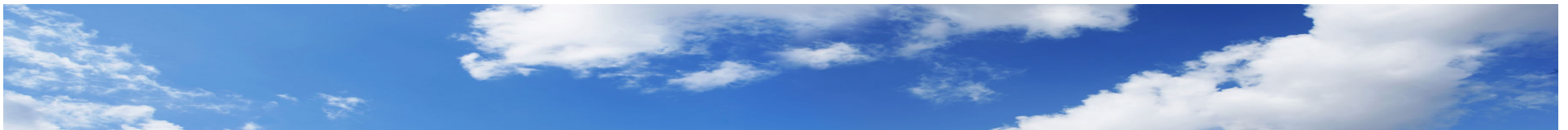
- EASA/2007/OP.17 (ongoing)
 - Investigation of the technical feasibility and safety benefit of an Integrated Engine / Rotor / Transmission Health Monitoring and HOMP System for Part 27 Piston Engine Small Helicopters.
- EASA/2008/OP.33 (ongoing)
 - Small Helicopter Operational Monitoring Programme (HOMP) Trial.



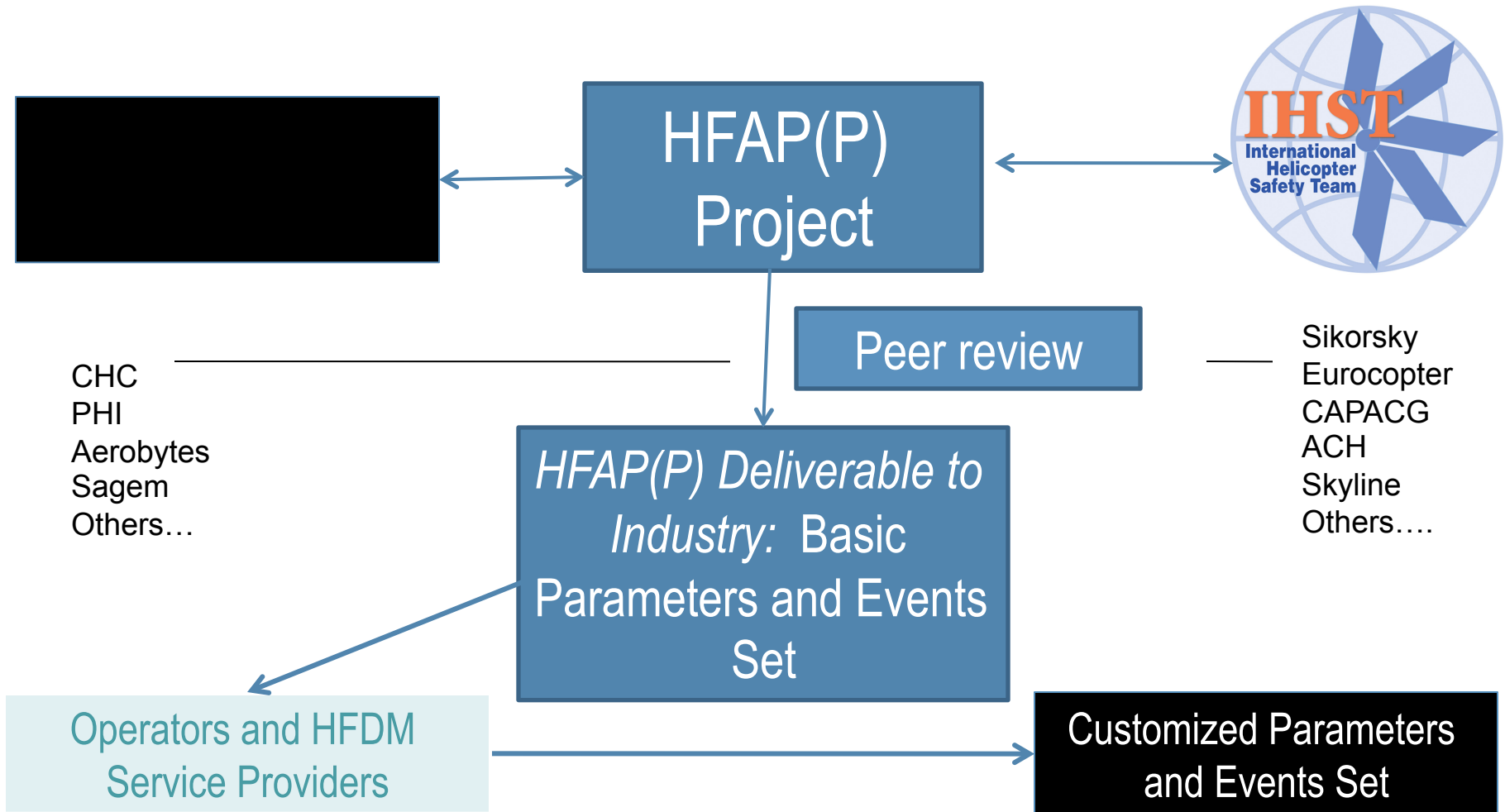


- Questions?

Open discussion – active participation is encouraged!



Initial Ideas



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