

Human Factors: CAA Action Plan 2022 - 2024

November 2021

Introduction

This document is a supplement to the CAA's Strategy for Human Factors in Civil Aviation. The strategy is available at: www.caa.co.uk/Safety-initiatives-and-resources/Working-with-industry/Human-factors/Strategy-and-action-plan/

The CAA's activities 2018-2020 were influenced by the pandemic. The focus shifted to supporting the aviation industry to identify and address both novel and existing HF issues. Emphasis was on individual wellbeing and on the impact of change on individual and company resilience.

This refreshed action plan refocuses our activities following the initial pandemic period. We return to delivering our long-term strategic HF objectives including continuing to develop internal and external awareness and competency in the assessment of HF.

The CAA recognises the need for continuous improvement, service delivery and remaining adaptable to challenges. The ongoing changes within the Industry provides the CAA with an opportunity to prioritise development of innovative technologies in support of helping people to do support aviation safety.

CAA Policy for Delivery of our Human Factors Strategy

The CAA is committed to understanding the risks to aviation safety arising from human limitations, and the benefits to safety from better understanding human capabilities. We seek to influence the attitudes and behaviours of people within the aviation system, while embedding an understanding of HF influences on the aviation system in everything we do.

We are committed to resourcing and supporting the delivery of our HF strategic objectives, recognising the importance of a proactive

approach to sustain and develop effective Human Performance (HP). We commit to this approach both internally in support of our people and their activities, and externally with our stakeholders. We recognise that the application of HF knowledge must include an appreciation for actions taken on the day within the specific operational context.

Our oversight activities will include assessment of the recognition and management of HP principles. Equipment, processes, procedures, technology, and organisational influences will be considered in the context of system interactions.

We aim to provide a consistent approach towards the understanding and oversight of HF requirements, demonstrating how the ICAO HP principles influence the aviation system - [Human Performance and Human Factors \(icao.int\)](https://www.icao.int/publications/default.aspx?publicationid=9921).

We will achieve this through a coordinated internal approach led by our HF programme activities and delivered within each department.

In support of the CAA's strategic objectives, Senior Leaders within the CAA are required to provide ongoing support to the plan. Each capability team within the CAA will develop detailed actions specific to the HF/HP risks and organisational priorities within their areas. They will resource their teams to enable the delivery of their HF actions within the overall safety priorities for their area. The HF Programme team will collaborate with the capability teams to provide support to identify issues, deliver training and develop specific tools and guidance material. This will ensure a consistent message and support learning throughout the organisation.

The CAA cannot do this alone. All stakeholders and industry sectors need to consider how HF influences people's performance within their own specific environment. We commit to progressing together towards supporting and enabling human performance as an essential element of the aviation safety system.

Strategic Objectives

The CAA's HF strategy included seven strategic objectives to support the delivery of our projected outcomes. These have been reviewed to align with the wider CAA Board priorities and objectives released in early 2021.

Our strategic HF objectives are:

- Investigate ways to better use data and information for understanding HF/HP
- Integration of HF assessment within normal oversight activities

- Development of Inspectors' knowledge and competencies
- Demonstration of expected performance and promoting best practice
- Develop collaborative partnerships with our stakeholders and other safety critical industries
- Promotion of early consideration of the impact of change on people in the system
- Remain globally aligned to international standards.

2022 -2024 Action Items

This action plan details the areas and specific actions that we will focus on over the next two years.

Underpinning the specific actions below will be our commitment to:

- Encourage robust and effective systems thinking within our HF work
- Continue to support industry recovery after the COVID 19 Pandemic

This will be an iterative programme which necessarily includes a team of people within the CAA. Subject matter experts and focal points in a variety of cross capability safety areas (HF, SMS, safety reporting) and specialists from across the organisation will need to collaborate to achieve this action plan.

This plan will focus on the following actions:

Training and Tools

- The internal training programme that maps onto ICAO Doc.10151 The Human Performance Manual for Regulators, and HF competencies for Inspectors, will continue to be delivered to achieve a greater HF knowledge base for CAA staff.

- Further targeted training and development of specialist HF competencies will remain an ongoing activity.
- CAA will develop tools that support our inspecting staff to be able to consider the different HF contributory factors, including organisational influences during their routine oversight activities.
- Investigate how the CAA can develop innovative data analysis methods that better identify HF impacts, positive and negative, on safety outcomes.
- Provide guidelines and support to those teams involved in developing rulemaking and policy regarding how to include HP criteria within regulations, in a format that can also be published to the industry.
- Training and tools will remain as 'living' resources which can be updated and amended as HF science and practical application methods develop. This will include the development of best practice examples and other guidance material to support learning and develop a better understanding of what "good" looks like.
- In the 2022-24 period there will be additional resources to understand and support the Industry as recovery from the COVID 19 pandemic continues. This work may form any future long-term global impacts on aviation safety.

CAA Inspector HF Competencies

- Beyond training courses and tools, all Inspecting staff will be encouraged to be inquiring about HF issues, to ask questions to improve learning, and to encourage organisations to share good ideas.
- Inspecting staff confidence and competence will be developed to challenge organisations if

an HF related audit or investigation finding is not closed satisfactorily.

- Increase in HF findings explicitly recorded in electronic auditing tools and with more detail and would see robust HF mitigations submitted in audit closures.
- By the next action plan update, management system oversight audit reports will increasingly demonstrate the following features:
 - Reference to environmental and organisational influences on HP.
 - Include demonstration of how HP principles have been effectively assessed.
 - Identification of systemic actions and focus on contributory and precipitating events rather than blaming individuals.
 - Require robust HP closure actions from service providers internal audit or incident reports that go beyond simply 're-training'.
 - Identify how organisations have included HF and HP in all stages of risk assessments and change management.
 - Provide support for Aviation Security (AVSEC) with the development of bespoke HF tools and training for their inspectors.

Stakeholder Engagement around HF Regulatory Development

The aviation industry and the technology surrounding it, is developing rapidly. Issues of environmental impact, the introduction of novel systems and evolving approaches will all impact on people within the system.

This will increase the challenge for us to be able to robustly assess HF / HP within complex

systems. The involvement and influence of people's actions and decisions on the end user or outcome of the system will not always be obvious. The following activities will be undertaken to support our HF approach:

- Commitment to maintain and further develop our collaborative relationships with external stakeholders to improve and share HF knowledge.
- Seek to understand where we are placed against other regulatory bodies in terms of HF activity and knowledge. It will use this information to develop our collaborative activities and resource requirements.
- Develop programmes of activity supporting innovation and future developments in aviation, with focus on the areas outlined in the Chartered Institute of Ergonomics and Human Factors white paper "The Human Dimension in Tomorrow's Aviation System"
- Develop collaborative relationships with those organisations growing expertise in future systems, such as human-machine teaming, human factors and automation, unified air traffic management and remote users of aviation systems.
- Contribute to developing understanding of proactive approaches to safety and system resilience by contributing to regulatory authority and ICAO working groups. This will include contributing to the development and promotion of HF / HP guidance material.
- Support the development of HF assessment approaches that include individual, organisational, and environmental markers, especially focused on areas where HF / HP requirements are embedded within the regulations.
- Support the ongoing work of the Ground Handling Operations Safety Team (GHOST) team and promote the initiatives developed within the team to support airports and handling agents.
- Provide support for the General Aviation Unit to enable them to increase awareness of HF issues within their community. Focused support will be offered to the air display community and assistance in sharing HF experiences, insights, and best practice.
- Investigate the possibility of creating an industry award to recognise excellence and innovation in HF activities focused on progressing HF initiatives.
- Provide support for CAA's STEM outreach programme to highlight HF considerations as part of this work.

Summary

The above 2022-2024 action items focus on the specific priorities that we have identified at the time of the action plan development. The CAA will continue to review the risks and priorities that our assurance, inspecting and intelligence functions identify. We will seek to match our resources to the risks that we identify, both across the industry and within specific communities or activities. We will revise and update our HF actions in line with the needs of our internal teams and across industry.

HF and HP will remain a significant and integrated area of our ongoing safety oversight activities.