The Air Accidents Investigation Branch (AAIB) investigates civil aircraft accidents and serious incidents within the UK, its overseas territories and crown dependencies. Its purpose is to enhance aviation safety by determining the circumstances and causes of air accidents and serious incidents, and promoting action to prevent recurrence. It is not to apportion blame or liability.

In 2016, they chose Across Safety to help them assess the barrier based investigation tool IncidentXP and subsequently apply it to their investigation process.

Project Objectives

- Understand IncidentXP’s features and functionality and assess the merits of using it to support investigations and write subsequent reports
- Trial the use of barrier failure analysis diagrams using IncidentXP
- If the initial assessment was positive, provide guidance on integrating IncidentXP into SOPs

How Across Safety Development helped

- Provided tailored briefings regarding barrier based investigations using Incident XP to AAIB inspectors and to senior managers
- Delivered in-house training, tailored to the AAIB’s needs, in the use of IncidentXP including best practices and the integration of barrier failure analysis diagrams with BowTie risk assessments
- Mapped completed AAIB investigations into barrier failure analysis diagrams and timeline diagrams to provide practical examples for assessment and training purposes
- Assisted with the development of SOPs to support the use of IncidentXP in investigations

Successes

1. Barrier failure analysis using IncidentXP has been utilised in several investigations including one into an accident at the Shoreham Air Show in 2015 (https://www.gov.uk/aaib-reports/aircraft-accident-report-aar-1-2017-g-bxfi-22-august-2015)
2. SOPs are now in place to ensure the consistent and effective use of the tool going forward
3. Following on from the success of the initial trial, the AAIB plans to build upon this foundation by training additional investigators in the use of barrier failure analysis using IncidentXP and to apply it, where appropriate, to future investigations

Across Safety has helped the AAIB use Incident XP and Bowtie XP to analyse accidents in the risk domain, which has provided commonality with the regulator and many operators. If aviation safety is managed through the use of risk, it makes sense to focus investigation on risk controls following an accident or serious incident when safety has been compromised.

Air Accident Investigation Branch