Introduction of human factors discipline in-house at AAIB

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Inspector of Air Accidents (Human Factors)
Investigation teams

Investigator in Charge

Operations

Human factors

Engineering

Recorded data
What human factors offers in an investigation

- Explain human performance
- Structured analysis methods
- Research skills
- Access and interpret science
- Systems thinking
Example EI-FJW and OE-IVC

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Investigation - Default - LGW

- 1 Thu 01/11
- 2 Fri 01/12
- 3 Sat 01/13
- 4 Sun 01/14
- 5 Mon 01/15
- 6 Tue 01/16
- 7 Wed 01/17
- 8 Thu 01/18
- 9 Fri 01/19

EFFECTIVENESS %

- 100
- 90
- 80
- 70
- 60
- 50

Crewing
Non-crewing
Sleep
Light
Ideal reality vs. practical reality

Ideal:

• Human factors inspector deploys to all major accidents and any others with significant human factors content and remains fully integrated throughout investigation.

Reality:

• One human factors inspector cannot deploy as quickly as inspectors on a roster.
• Human factors inspector not always available.
• Significance of human factors not known in advance.
• Sometimes other inspectors need to establish what has happened before human factors input can be defined.
• Too many investigations have significant human factors elements (workload issues).
Flexible approach

• Duty coordinator decides about deployment
• Telephone liaison
• Variable level of human factors input
• Prioritisation

For future:
• Human factors mentoring
• Commission human factors work packages
• Improved human factors training for inspectors
Importance of language

Terms to avoid
- Error
- Failure
- Violation
- Complacency
- Incompetence
- ...

‘Use with caution’
- Bias
- Conscientiousness
- Omission
- Situational awareness
- ...

Preferred terms
- Expectation
- Fatigue
- Stress
- Workload
- ...

From Safety I to Safety II: A white paper:
https://www.skybrary.aero/bookshelf/books/2437.pdf
Conclusion

In-house Human Factors

Improved investigation quality

Improved capability across organisation