Human Factors Case Study

Presented by Sofema Online (SOL) www.sofemaonline.com

Please Consider the Following Event

Synopsis

It was in the end of the day, and a minor inspection had just been finished on a helicopter.

- The only thing missing was the final paperwork.

The helicopter was placed in the maintenance hangar ready for pick up the following day however later that afternoon the pilot showed up ready to collect the helicopter.

The certifying staff in charge of the job jumped into the office to finish the paperwork meanwhile 2 colleagues agreed to move the helicopter out of the hangar.

Note – this was additional task as they both had to attend to an important meeting (at the same time).

What Happened?

The 2 colleagues (experienced technician's) now under some pressure to complete the task and return to the meeting, lacking familiarity with the operation of the hangar doors as well as not being used to working in this particular hangar environment, nevertheless proceeded to open the door.

During operation of the hangar doors, one of the attachments for the door fell of (due to incorrect opening procedure used)

- This resulted in the hangar doors jamming in the not fully open position.

The technicians agreed the door was sufficiently open for the helicopter to be pushed outside.

- Unfortunately, they miscalculated the height of the helicopter, and the top beacon on the tail of the helicopter hit the hangar door and broke off.

Final Outcome

The pilot did not fly that day.

General Comments

Aviation is an extremely professional undertaking and without any doubt it is never the intention of a person to make a mistake which causes an incident or accident.

It happens for a variety of reasons, and we can use the Dirty Dozen as a template to see how many are applicable to this event.

The Dirty Dozen

1. Lack of communication
2. Distraction
3. Lack of resources
4. Stress
5. Complacency
6. Lack of teamwork
7. Pressure
8. Lack of awareness
9. Lack of knowledge
10. Fatigue
11. Lack of assertiveness
12. Norms

Human Factor Assessment

- Lets consider the contributing elements
- Paperwork Procedure
- Certifying Staff knowledge of Technicians Competence
- Technicians willing to " have a go" Company Culture
- Availability of Training for Operating major Equipment Including Doors
- Moving Aircraft without "wing men"

1/ Paperwork not completed at the end of the task

- Why ?
    - Related to Convenience (Normal Practice SOP) / Time Constraints / Other Reasons.

2/ Certifying Staff Prioritized Paperwork Completion over moving the Aircraft.

- Was he aware that the Technicians had a lack of familiarity (Did he Check?)
    - If the organisation required training to operate the doors the Certifying Staff would be asking “are you approved to open the doors”
- Did the Technicians share their lack of awareness – (Why did they choose not to communicate?)
    - Are technicians encouraged to speak up and ask questions
    - Is a “have a go mentality discouraged”

3/ Organizational Factor - Is training required for operating doors / other equipment / moving aircraft.

- When an organisation issues an internal approval – the level of HF error typically reduces.

4/ Organizational Factor - Is a “Wing Man” Required to provide clearance when moving equipment in or out of the hangar.

Mitigations – To Preclude this Event Happening Again in the Future

1) Formal Training to be provided for persons who are required to operate equipment including doors.

2) Measure the effectiveness of the Organisations Safety Culture see here for FOC guidance https://sassofia.com/download-area/#safety-safety-management-system-sms

- Instructions for the Management of Cultural and Safety Survey and How to use the Data for demonstrating both the effectiveness of the SMS and as a tool to show “Continuous Improvement.”

3) Review of SOP Procedures related to:

- Timely Completion of Paperwork
- Moving Aircraft & the use of “Wingmen” (Independent monitors)