ENG723

Posted on 30.01.2023 by Phil Young

Category: Engineering

Report Title Differences in corporate risk taking and application of the MEL

Initial Report

Aircraft was flown to [Location] with multiple ADD's, including FMGC 1 inoperative, and no APU (air start and full ground service required). Inbound crew noted Engine 2 Overspeed Protection Fault appeared on shutdown. MEL consulted — no dispatch. I contacted [Base] engineering and informed them of the occurrence of a nil dispatch fault. Aircraft had previous history of ENG 2 OVRSP PROT ECM 3 days prior [Sector] in tech log. [Base] engineering initially dismissive that aircraft had a previous occurrence of the fault, despite being logged in tech log.

We were attended by 3 experienced [Same Type] engineers in [Location], being [a Foreign Operator's] main maintenance base. After approximately 2:30 hours of diagnosis and an engine run, the nil-dispatch fault remained on engine shutdown. The local engineers were convinced a bigger underlying issue was leading to the overspeed protection warning triggering when self-testing the FMU on IDG 2 during shutdown. After the first engine run, the local engineers declared the aircraft AOG.

The final solution recommended by [Base] engineering was to disconnect the engine 2 generator, so that the self-test of the fuel metering unit would not occur. Another engine run could then be performed and the ENG 2 OVRSP PROT FAULT nil dispatch ECAM might not appear. This would add an engine 2 generator ADD but might prevent the ECAM caution to enable dispatch to [Base]. However, we would be unable to do this using MEL reference 24-22-01A because dispatch in accordance with that MEL procedure requires 2 operative generators, and the aircraft APU was already inoperative.

To the disbelief of the local engineering team, they were informed that the APU is only ADD'd because it had an oil leak that led to a fumes event. [Base] engineering required the engineers to check that if the APU oil leak is "only minor", then it "should be OK" to recertify the APU as only inoperative for air bleed and not for electrical generation. This would provide the second generator and get around the limitations of MEL 24-22-01A. By disconnecting IDG 2 and re-performing a second engine run, hopefully the ENG 2 OVRSP PROT FAULT ECAM would not reappear, and the aircraft could legally dispatch.

The Flight Crew had concerns about operating an aircraft at night in thunderstorms with the

combination of defects proposed. The aircraft would require air start, with no APU bleed from re-classified INOP APU, and be level-capped through bad weather enroute, only 1 AP/FD due to inoperative FMGC 1, without an ENG 2 generator. I also had concerns that [Base] engineering solutions involved masking the underlying technical issue, rather than operating within the spirit of the MEL. These concerns were compounded by the local engineering team stating that they would feel uncomfortable certifying that aircraft as fit to fly, and that it would be unacceptable for [Foreign Operator] aircraft to have that number of ADDs.

The Flight Crew were unable to contact [Base] operations or flight crew management via any number of provided phone numbers to express our concerns for over 2 hours. The only flight crew point of contact with [Base] was via Engineering, who informed the Captain “We are speaking with operations, but they are too busy to contact you”. During a second engine run with the disconnected IDG 2, on shutdown the nil-dispatch ECAM reappeared, and the aircraft was finally declared AOG.

I had two primary concerns. Firstly, I now have a few years’ experience at [Operator], but this was the first time I’ve encountered that level of dissatisfaction from local engineers. From their differing opinions on continuing the troubleshooting process, to the desire to dispatch an aircraft with that combination of ADDs. Secondly, I found myself unsure around the applicability of MEL nil-dispatch clauses. From my understanding, we were locking out a system to prevent a self-test occurring, which was producing a nil dispatch message. I had a conflict about whether masking a message is an acceptable use of the MEL.

Comment

Concern was the initial reaction on receiving this report. Trying to outwit a modern aircraft sometimes ends badly and often the aircraft decides it is not going anywhere, which is of course the safest option. The MEL should be designed to prevent the clash of carrying forward conflicting defects but this is not guaranteed. It is largely up to the engineer to consider possible conflicts before they hand the aircraft back to the Flight Crew who then review the situation, including operational implications. The CAA were confident that Base Maintenance Control had not acted in a cavalier fashion and had also sought advice from within their technical workforce. From a CHIRP point of view, we should be aware of the dangers of multiple remote organisations and departments working together and the risk of miscommunications or conflicting advice as a result. We are all aware of the importance of good communications as an HF issue, and the stresses of inadequate communication with Base Operations may possibly have affected the frame of mind of the Flight Crew by sowing seeds of doubt about the validity of what was being done in order to recover the aircraft. Ultimately, it’s all about communication and if the Captain has doubts that the aircraft is safe to operate then the decision is clear; it’s for the operator’s engineering/operations teams to then convince them that it is safe through transparent and unambiguous advice and

information to remove any uncertainty. This appears to have been lacking in this case, and the inability of the Flight Crew to contact base operations or flight crew management for their perspective for over 2 hrs is woeful.