The A-320 NEO PW engines have been plagued with engine failures ever since they were launched. While the Indian DGCA restricted the flights over water to mitigate the risk of ditching, their risk assessment apparently did not cover flights over mountains.

On 29th March 2019, 6E11 on route from Delhi to Istanbul suffered an Engine Failure just as she had entered Iran airspace and prior to overflying high ground. The aircraft carried out the escape route maneuver to divert and land safely at Kuwait.

While the risk assessment carried out by DGCA India has not been released for public viewing, it is apparent that a scientific methodology like the Monte Carlo simulation was not carried to determine the risk of engine failure and the acceptable risk.

The state safety policy commits to ensuring that the acceptable level of safety are maintained.

State Safety Policy
Monte Carlo Simulation document.
According to current norms, frequent checks on these aircraft including inspection of engines after every 1,000 hours, instead of 1,500 hours as sought by PW, and repeat inspection every 500 hours.

Among issues afflicting the GTF, Pratt has fixed a faulty knife-edge seal in all turbines by reverting to an older design while working on a more durable replacement. The retrofit of a new combustor has yet to be completed, with the glitch causing some recent groundings at India’s IndiGo, whose aircraft fly in hot, dusty conditions that put a strain on engines. There’s also a population of jets without the latest version of an oil seal that will be added as their powerplants undergo scheduled overhauls, Dervin said. The Indian steps amount to “preventive removals” under parameters adopted after problems last year, B.S. Bhullar,
chief of the country's Directorate General of Civil Aviation, said in response to questions.
The government has also ordered a report on the groundings, of which it said there were
seven at IndiGo as of Friday, together with two at Mumbai-based Go Airlines.

**The Indian Directorate General of Civil Aviation (DGCA) restricted operations of A320neo aircraft to Port Blair as a result of ongoing engine issues.**

After meeting with A320neo operators GoAir and IndiGo on their ongoing issues with Pratt & Whitney PW1100G engines, DGCA issued four measures. One of these was an operational restriction of flights to Port Blair. This airport is located in the Andaman Islands between India and Thailand. Nearest airports on the Indian mainland are Kolkata at 1305 km and Chennai at 1370 km.

On December 23, 2018, an IndiGo Airbus A320neo aircraft returned to Port Blair when the pilot observed a low oil pressure warning for engine no. 2. The flight crew shut down the engine and returned to land at Port Blair.

DGCA India has declared the engines as safe but the FAA AD clearly categorises the situation as UNSAFE and directs immediate implementation.

**Public Notice**

*(e) Unsafe Condition*

This AD was prompted by corrosion found on the high-pressure compressor (HPC) front hub, which could result in certain HPC front hubs cracking before reaching their published life limit. The FAA is issuing this AD to prevent failure of the HPC front hub. The unsafe condition, if not addressed, could result in uncontained HPC front hub release, damage to the engine, and damage to the airplane.

Measures published in the Public Notice:
A. Inspection of 3rd stage LPT blade: Carry out inspection of 3rd stage LPT blades as per AMM task 72-53-00-220-801-A at every weekly inspection.

B. Dry Face Seal: Carry out BSI on No. 3 bearing front & AFT carbon seal (DFS) as per P & W special instruction 375F-18 dated 20.12.2018 at –

I. For newer engines, perform BSI at first oil filter change.

II. For engines that have already has the first oil filter change and are less than the 1000 FH of operation time, perform BSI at next opportunity or A check whichever is earlier.

C. Smoke and Odors issues: Create awareness among Cabin and Cockpit Crew about odor / burning smell/smoke (even if slightest) during approach phase and positive reporting to Cockpit crew for necessary action. If any odor/smoke is observed in Air-conditioning PACK Air, Cockpit crew need to identify the source of odor by isolating PACKs one at a time. Log all the cases detecting odours/ smoke in cabin during operation for necessary investigation and rectification. In all odour / smoke cases, engine to be inspected in detail as per AMM and to be used only after rectification of defect.

D. The restriction imposed on flight operations to Port Blair with A320 NEO aircraft.