



GOVERNMENT OF INDIA
CIVIL AVIATION DEPARTMENT
DIRECTOR GENERAL OF CIVIL AVIATION

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OPERATIONS CIRCULAR

File No AV 22024/05/2020-FSD

Subject: Impact of Locust on Aviation.

BACKGROUND:

In the recent days India has witnessed an unusually high Locust activity. While India does encounter Locust activity in a small scale annually, however, the level of presence of Locust witnessed this year was last seen more than 20 years ago.

Locust belong to the family called "Acrididae" and are commonly even called grass hoppers. Locust are potentially very dangerous pests as they have the ability of swarms to fly rapidly across great distance. Locust swarms fly with the wind at roughly the speed of the wind therefore covering distances up to 200 kilometers per day and are known to have reached heights of 2000 meters above sea level.

Locust swarms can vary from less than one square kilometer to several hundred square kilometers. There can be at least 40 million and sometimes as many as 80 million, Locust adults in each square kilometer of swarm.

OBJECTIVE:

While damage to agriculture and crops by Locust swarms is well known, the objective of this operations circular is to get aviation fraternity aware of risks posed by Locust swarms and the need to avoid flying through a swarm. Locust survey and control are primarily the responsibility of the Ministry of Agriculture in locust affected areas and operations are undertaken by National locust units.

As Locust swarms fly along with the current wind, their path of travel changes with change in wind direction. Predetermination of their travel path is difficult to forecast as weather satellites and other satellites used to monitor the environment cannot detect Locust swarms.

IMPACT ON AIRCRAFT OPERATION:

Generally Locust are found at lower levels and therefore pose a threat to aircraft in the critical landing and take off phase of the flight.

Almost all air intake ports of the aircraft will be prone to ingestion in large numbers, if the aircraft flies through a swarm (Areas like engine inlet, air-conditioning pack inlet etc.). Pitot and static sources can also get partially or fully blocked while flying through Locust swarms. Blocked pitot and static sources lead to erroneous Instrument indications, especially unreliable air speed and altimeter indications.

Though an individual Locust is small in size, impact of large numbers on the windshield is known to have impacted the pilot forward vision. This is a grave concern during landing, taxi and take off phase. Use of wipers at times may cause the smear to spread even more, pilot should consider this aspect prior to opting to use wipers to remove Locust from the wind shield.

Large swarms can also obstruct visual ground contact over a large area, therefore flights under Visual Flight Rules also need to be aware of their presence. Air traffic controllers, when aware of locust presence in the vicinity of their aerodrome, are advised to share the information with all arriving and departing flights

Being a day time phenomenon, the pilot is also expected to keep a keen eye for any such observations. All pilots are also required to share information of Locust swarm location if they have sighted any during the flight. As far as possible, it is strongly advised that flights should be avoided through any known Locust swarm. The only favorable aspect is that Locust do not fly at night, thus providing better opportunity to sight and avoid them.

Post a flight through a Locust swarm appropriate entry in the pilots defect log should be made giving details of any malfunction experienced and the engineering crew should conduct checks as mandated prior to release of aircraft for next flight.

Ground handling agencies should be aware that Locust swarms pose risk to parked aircraft, where possible air inlets and probes should be covered.

The above is for information and where applicable for compliance by all pilots, Operators, Engineers and Air Traffic controllers. Engineering and ground handling agencies are to be made aware of the applicable portion of the circular.

Sd/-
(Ravi Krishna)
Joint Director General