
ACI ADVISORY BULLETIN

Mitigating the risks created by overflow aircraft parking

Montreal, 24 April 2020 – Due to the global COVID-19 pandemic, airlines have been obliged to ground and park most of their fleet.

Airport operators are thus faced with the challenge of finding enough locations to support the temporary overflow parking of aircraft.

This situation may lead to risks to infrastructure and safety, including:

- Damage from the use of pavement in a way not originally intended
- Aircraft damage, especially the risk of collision during parking manoeuvres with minimum clearances.
- Runway or taxiway incursions, and
- Issues around aircraft access and availability.

The purpose of this Advisory Bulletin is to provide airport operators with a list of considerations and best practices to assist them to mitigate the risk created by temporary overflow parking.

Specifically, static loads from aircraft over a prolonged period- especially on flexible pavement - may result in pavement deterioration.

Also, while aircraft are parked, airlines need to conduct aircraft maintenance and the any resulting fuel or oil spill could cause deterioration of the pavement.

The guidelines are structured in two sections:

1. Best practices for special aircraft parking arrangements, and
2. Key aspects in mitigating the risks created by aircraft overflow parking on runways and taxiways.

Section 1: Best practices for special aircraft parking arrangements

Develop and update a comprehensive temporary aircraft parking plan: The purpose of a temporary aircraft parking plan is to identify parking options and priorities and clearly indicate where to park different types of aircraft.

The plan should be continuously monitored and updated when required and should identify at least:

- locations for long, intermediate, and short-term parking of aircraft
- safety impact of parking options on obstacle limitation surfaces (OLS) and operations
- clearance distances between aircraft
- non-standard parking locations that could be used safely for aircraft overflow parking, and
- notification procedures and safety measures when non-standard parking locations are used (such as runways and taxiways).



Aircraft fleet parked at taxiway of Hong Kong International Airport.

Some airports reported using geographic information systems and digital tools to complement the plan and monitor the implementation of changes. Insertion of pictures and diagrams is highly recommended.

It is also recommended to exhaust all space at gates, ramps and aprons first before considering taxiways and runways as parking area options. Concrete pavements should be favoured for long term parking, rather than flexible asphalt pavements.

Work in collaboration with all the relevant stakeholders: It is recommended that airports establish an aircraft parking committee that will review the temporary plan when necessary.

All the relevant stakeholders should be represented in that committee, including but not limited to:

- aircraft owners and/or operators
- the air navigation service provider
- airport security team
- airport safety team, including airside safety and standards, and aircraft rescue and firefighting service, and
- airport schedulers.

Perform a Safety Risk Assessment (SRA): It is critical to assess the safety impact of overflow aircraft parking on infrastructure, OLS and operations and take the adequate measures to mitigate the risks, including collision risks.

[A draft template SRA is attached](#) that airports could use to adjust to the specific conditions at their airports. The template shows a particular assessment that should be regarded only as an example.

Section 2: Key aspects in mitigating the risks created by aircraft overflow parking on runways and taxiways

Pavement strength: It is important to assess pavement strength to accommodate the loads and to check Aircraft Classification Number (ACN) and Pavement Classification Number (PCN) compatibility. Technical analysis should be carried out before overloading pavements by more than 10% relative to reported pavement strength.

Aircraft loads & tyre pressure: Aircraft should be made as light as possible by unloading anything that can be appropriately and safely removed, without jeopardizing its resistance to the wind. The load may be distributed over a larger contact area by deflating tyres, but not more than recommended by the manufacturer.

Pavement condition: pavement condition should be inspected regularly to monitor potential pavement deterioration. When inspecting the pavement, deterioration that should be documented include, but are not limited to:

- depressions on flexible pavements under wheels
- ripples and bumps
- puncturing in case of inadequate pavement design

- damage from fluid leakage (in those areas, protection should be provided by a solvent-resistant surface).



Lufthansa aircraft parked on the north-west runway of Frankfurt Airport as a result of the corona pandemic.

If new signs of pavement deterioration or failure are observed, the aircraft should be moved.

Aircraft access requirements and parking requirements: Establish clear procedures and restrictions for aircraft access for fuelling, cleaning and maintenance, including engine runs.

Establish when access is needed day or night and decide who has access. Measures should also be introduced to maintain the security of aircraft parked.

Necessary equipment such as chocks, cones and tie-downs should be allocated, and procedures determined, as well as using a clear identification or reference for each temporary parking position.

Consider providing portable lighting for remote areas that are unlit.

Returning to normal: Airport operators should consider re-certification of runway and taxiway pavements used to park aircraft during the COVID-19 pandemic before resuming operations. If some pavement distresses have not been identified at the return

to normal service of the area the risk will be transferred to aircraft and in those cases required repairs would affect operations.



Delta Air Lines jets parked in Victorville, California (Source: AirTeamImages).

Ends

More recommendations on this issue can be found in the following documents:

- [AIRBUS leaflet](#) - COVID-19: Aircraft long term storage and asset preservation
- [FAA Part 139 Cert alert 20-02](#)
- [WSP white paper on Best Practices on the Temporary Parking of Overflow Aircraft](#)

Airports Council International (ACI), the trade association of the world's airports, was founded in 1991 with the objective of fostering cooperation among its member airports and other partners in world aviation, including the International Civil Aviation Organization, the International Air Transport Association and the Civil Air Navigation Services Organization. In representing the best interests of airports during key phases of policy development, ACI makes a significant contribution toward ensuring a global air transport system that is safe, secure, customer-centric and environmentally sustainable. As of January 2020, ACI serves 668 members, operating 1979 airports in 176 countries.