



AO-0703 — Aircraft Environmental Impact Management and Mitigation at and around Airports

The objectives are to ensure that decisions taken at the local level achieve the optimum environmental performance from aircraft operations at and around airports, by achieving the most appropriate balance between social, economic and environmental imperatives. A key aim will be to balance sometimes conflicting needs for noise and atmospheric emissions reduction and to account for system wide implications of local decisions. A correctly balanced environmental regime at an airport can help to ensure that legal compliance to regulation is maintained, that the rules are harmonised to the extent possible, and the global and local impacts are minimised to the extent possible. Most importantly, a key objective is to ensure that non optimal environmental procedures and constraints are avoided and where such constraints are being considered that the least damaging options are selected. Optimum environmental efficiency and capacity can be achieved at and around airports through the collaborative local selection of the most appropriate ATM capabilities and OIs available, within an overarching and harmonising framework. This framework must involve all operational stakeholders.

Rationale The key impacts from aircraft operations are threefold noise, air quality and climate change (mainly fuel-CO2, related). These can best be mitigated through flight fuel efficiency, avoiding over-flight of sensitive receptors and integrated land-use and ATM planning. Because of its life expectancy and atmospheric mixing, the location of CO2 emissions does not determine its impact and all CO2 emissions are equally harmful to the climate. For air quality emissions the impacts are chiefly triggered by Oxides of Nitrogen and Particulates that are emitted from aircraft operating at below 3,000ft AGL and especially below 1,000ft AGL. Noise is produced from airframes and engines during operations in the air and on the ground. Noise can be considered to be significant for operations up to around 10,000ft AGL, but is more usually considered to be significant at or below 4,000ft AGL. The precise nature of the significance of noise will depend on many local demographic factors. From an operational perspective, noise can be mitigated by moderating thrust and drag, keeping aircraft as high as possible and avoiding the over-flight of population centres and sensitive sites. National and locally developed environmental rules and non-optimal procedures driven by the need to minimise local environmental impacts can result in very significant constraints on the entire ATM system and in particular Terminal Areas and airport operations and capacity. These can also accelerate the demand for new ATM infrastructure. The policy response to climate change does not presently affect airport and TMA operations. However, this is important for ATM strategically and hence for airport and TMA operations since it also links to flight fuel efficiency which is also a key ATM business aim. In the future physical risks on ATM operations arising from changes in the climate (e.g. more severe weather events) may provide additional significant challenges for the ATM system and its operation and development.

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Full benefits date (FOC) 31-12-2014

Current Maturity Level -

Solution Data Quality Index -

Current Maturity Phase R&D Finalised

Scope Local

Release -

PCP Status -

Context

Related Elements



