



**GOVERNMENT OF INDIA  
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION  
TECHNICAL CENTRE, OPP. SAFDURJUNG AIRPORT, NEW DELHI**

**AVIATION ENVIRONMENT CIRCULAR 1 OF 2010**

**File No. 04-01/2010-AED**

**Dated: June 1, 2010**

**Subject: Improvement of Airport Environment by restricted use of APU/GPU at Airport.**

**1. Introduction**

1.1 An APU is an integral part of an aircraft and its primary function is to provide power to start the main engines. Besides engine starting, APU also has several auxiliary functions and can be used for heating, cooling, and ventilation systems for the comfort of the passengers in the cabin prior to starting the main engines while the passengers are boarding. Some APUs can be also connected to a hydraulic pump, allowing maintenance, operations of flight controls and power equipment without running the main engines.

1.2 In the absence of APU, Ground Power Unit (GPU) can be used for the same purposes. GPU can be used to provide electrical power, hydraulic power, engine-start capability (bleed-air), conditioned air (hot or cold) for the aircraft's equipment recesses or interior, and nitrogen to inflate struts and operate power tools to a stationary aircraft for servicing and diagnostic testing prior to flight.

1.3 Aircraft arriving at any airport either use mobile units (GPU) or keep their APU running to provide power for servicing of the aircraft. As a result, there is increased noise and pollution at airports. Further, GPU and Pre Conditioned Air Unit (PCA) use heavy duty diesel engines which run at a high RPM in order to provide required services to the aircraft. This results in additional noise pollution of the order of 80-85 dB for GPU and between 90-100 dB for PCA unit.

1.4 Both these units (APU and GPU) run either on ATF or diesel. Continuous use of these units release hazardous air pollutants such as CO<sub>2</sub>, NO<sub>x</sub>, CO, SO<sub>2</sub>, etc that are harmful to environment and the personnel working around these units. The continuous use of these units also lead to increment in the carbon

footprint of that particular airport where it is being used and tends to further pollute the local air quality.

## **2. Environmental considerations**

2.1 In order to reduce the impact on the environment due to operation of APU/GPU/PCA at airports besides minimizing the congestion at apron and connected safety considerations, most of the airports elsewhere are adopting alternative means to these units. The improvement of airside services and equipment is needed to match the up gradation of airport infrastructure, to improve the efficiency of the airport and to reduce the carbon footprints of their airports.

2.2 As part of this process, initiatives have been made at some airport by providing aerobridge mounted unit called Fixed Electrical Ground Power (FEGP) as an alternate means to APU. Use of these aerobridge mounted units by aircraft parked at aerobridge will address the environmental problems, both noise and emissions, emanated due to continuous use of APU/GPU. This system will help in minimizing noise and carbon emissions at airports.

## **3. Guidance for the use of APU's**

3.1 With a view to support environmental friendly initiatives to improve local air quality and reduce noise at airport, airlines are advised to switch off APU while parking aircraft on aerobridges at such airport and switch over to Fixed Electrical Ground Power (FEGP) for servicing purposes.

3.2 Exceptions may be applied in case where it is deemed to use APU due to the reasons either FEGP unit is not available or is unserviceable or aircraft is not compatible with FEGP.

3.3 The airport operators will monitor serviceability of FEGP and circulate daily list of serviceable FEGP and also ensure availability of GPU in situations described in para 3.2.

3.4 The airline operators are advised to adhere to the aforesaid instructions to cooperate in achieving clean environment as a part of green airport initiatives.

*Nasim Zaidi*

**(Dr. Nasim Zaidi)**

**Director General of Civil Aviation**