



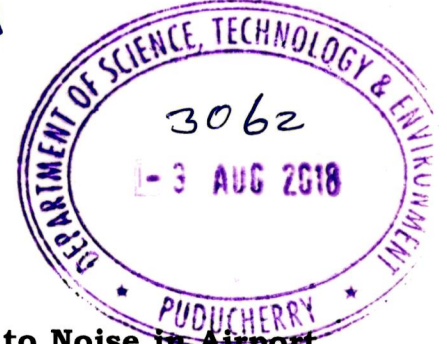
**Speed Post**

Fl.No.-78(C)/AT/UPCD-I/2018 7591

Date: 19.07.2018

To,

**The Member Secretary**  
**Pondicherry Pollution Control Committee**  
Department of Science, Technology & Environment  
Housing Board Complex, IIIrd Floor, Anna Nagar  
Pondicherry - 600 005



**Sub: Notification of Air Quality Standards with respect to Noise in Airport Noise Zone- reg.**

Sir,

The Ministry of Environment, Forest and Climate Change notified ambient air quality standards with respect to noise in Airport Noise Zone vide G.S.R. 568 (E) dated 18<sup>th</sup> June, 2018 as enclosed herewith. As per para 6. of this notification, the notified standards are to be monitored/measured following the monitoring protocol and measurement procedure for Airport Noise Zone as displayed in MoEF&CC/CPCB websites (copy enclosed).

You are requested to coordinate with the respective Airport operators in your jurisdiction and commence monitoring for ensuring compliance of the said notification and submit monitoring report to this Office for annual compilation.

Yours faithfully,

**(Suneel Dave)**

AD & Head, UPCD-I

**Encl: As above.**

Sw  
PPCC

Rhw  
3/8/2018

- (2) राज्य/संघ शासित प्रदेश विकास प्राधिकरणों को विमानपत्तन के आस-पास भूमि उपयोग योजना के लिए विमानपत्तन ध्वनि परिक्षेत्र में विमानपत्तन प्रचालनअपेक्षाओं पर विचार करना चाहिए।
5. विमानपत्तन ध्वनि मैपिंग:  
सभी विमानपत्तनों के लिए ध्वनि मैपिंग का कार्य विमानपत्तन के मास्टर प्लान के अनुसार, विमानपत्तन भावी विमान संचालन और यातायात अनुमानों पर विचार करते हुए विमानपत्तन के प्रचालकों द्वारा नागर विमानन महानिदेशक की अपेक्षाओं में निर्दिष्ट आवश्यकताओं के अनुसार किया जाना चाहिए। यह जानकारी विमानपत्तनों के प्रमुख स्थानों के साथ-साथ संबंधित विमानपत्तन प्रचालक और राज्य/संघ शासित प्रदेश विकास प्राधिकरण की वेबसाइट में प्रदर्शित की जाएगी।
6. प्रोटोकाल और मापन प्रक्रिया:  
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय और केंद्रीय प्रदूषण नियंत्रण बोर्ड की वेबसाइट पर प्रदर्शित विमानपत्तन ध्वनि परिक्षेत्र के लिए निगरानी प्रोटोकाल और मापन प्रक्रिया का अनुपालन किया जाएगा।
7. विकास प्राधिकरण/क्षेत्रीय आयोजना विभाग, विमानपत्तन ध्वनि परिक्षेत्रों के अंतर्गत आने वाले किसी भी भवन निर्माण के लिए मौजूदा भवन कोडों और उप-कानूनों के तहत भीतरी वातावरण में सुधार के लिए डिज़ाइन, निर्माण और सामग्रियों के चयन में नई इमारतों, सुविधाओं और आवासीय, संस्थागत, अस्पताल और वाणिज्यिक सुविधाओं की परियोजनाओं में ध्वनि प्रतिरोध को शामिल करने के लिए प्रावधान निर्दिष्ट करेंगे।
8. सभी विमानपत्तन, एयरलाइन और प्राधिकरण अधिसूचना की तारीख से दो साल के भीतर अधिसूचना में निर्दिष्ट अपेक्षाओं का पालन करेंगे।”

[फा. सं. क्यू-15017/31/2015-सीपीडब्ल्यू]

डॉ. ए. सैथिल वेल, वैज्ञानिक 'जी'

**टिप्पण:** प्रमुख नियम, भारत के राजपत्र, असाधारण, भाग-II, खंड 3, उप-खंड (i) में दिनांक 19 नवम्बर, 1986 की संख्या - का.आ 844 (अ) के द्वारा प्रकाशित किए गए थे और अंतिम संशोधन दिनांक 22 मार्च, 2018 की अधिसूचना सा.का.नि. 263 (अ) द्वारा किया गया।

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

### NOTIFICATION

New Delhi, the 18th June, 2018

**G.S.R. 568(E).**—In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:

1. (1) These rules may be called the Environment (Protection) Amendment Rules, 2018.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule-I, after serial number 111 and the entries relating thereto, the following serial number and the entries shall be inserted, namely:-

Sl. No.	Industry	Parameters	Standards	
1	2	3	4	
		Ambient Air Quality Standards with respect to Noise in Airport Noise Zone		
“112”	Airports	Type of Airports	Limits in dB (A) Leq*	
			Day Time	Night Time
		Busy Airports	70	65
		All other Airports excluding proposed airports	65	60

**Definitions:**

- (a) \*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing. A day time from 6.00 a.m. to 10.00 p.m. and night time from 10.00 p.m. to 6.00 a.m. are considered for time weighted average.
- (b) "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear (The range of human hearing is 20 Hz to 20 kHz).
- (c) A "decibel" is a unit in which noise is measured.
- (d) Leq: It is energy mean of the noise level over a specified period.
- (e) Busy Airport - For the purpose of noise management at airports, a busy airport shall be defined as "a civil airport which has more than 50,000 aircraft movements per year (a movement being a take-off or a landing)" excluding those purely for training purposes on light aircraft.
- (f) Take-off - A phase of flight from the application of takeoff power to an altitude of final take-off segment.
- (g) Landing - A phase of flight from the beginning of the landing flare until aircraft exits the landing runway comes to a stop on the runway, or when power is applied for takeoff in the case of a touch-and-go landing.
- (h) Lmax is unit for aircraft maximum noise level in units dB(A) which is maximum or peak noise value for aircrafts at the monitoring location in accordance with the noise standards notified by the Directorate General of Civil Aviation for respective airports.
- (i) Other Airports - an airport having more than 15000 but less than 50000 aircraft movement annually.
- (j) Proposed Airports - airport that is not functional yet and is under development.

- Note :**
- (i) Day time shall mean from 6.00 a.m. to 10.00 p.m and night time shall mean from 10.00 p.m. to 6.00 a.m.
  - (ii) The above specified limits shall have a tolerance limit of 10dB (A) Leq.
  - (iii) The specified limit excludes defense aircraft and aircraft landing and take-off noise from all runways and aircraft engine/ground run-ups, helipad locations earmarked by Airport Operator for this purpose.
  - (iv) However, the limit for aircraft noise as Lmax will be notified by the airport operator with approval of the Directorate General of Civil Aviation at the aircraft noise monitoring locations installed by the airports as mentioned in paragraph 1 of this notification.
  - (v) The noise limits specified in above shall replace and supersede the ambient air quality in respect of noise limits of the following existing zones:
    - (a) Silence;
    - (b) Residential; and
    - (c) Commercial areas;

- (vi) As specified in the Noise Pollution (Regulation and Control) Rules, 2000 in the areas falling directly under Airport Noise Zone.
  - (vii) The noise standards within the overall boundary of airports shall be applicable as Industrial Areas i.e. day time 75 dB (A) Leq and night time 70 dB (A) Leq as per the Noise (Regulation and Control) Rules 2000 and shall be measured at different points of airport boundary and then averaged.
  - (viii) These standards will not be applicable to a civil airport which has less than 15,000 aircraft movement annually.
- 1(1) For Airports excluding newly proposed airports:
- In addition to dB(A) Leq applicable in the 'airport noise zones' specified above, Lmax value in dB(A) shall be published by the airport operator with approval of the Directorate General of Civil Aviation only for airports having more than 50,000 annual traffic movements. These Lmax values shall be complied by airlines and to be monitored and communicated by Airport Operator to the Directorate General of Civil Aviation. These Lmax value shall be reviewed as and when there is a requirement in future.
- (2) For Proposed Airports (yet to be operationalized):
- (i) For any upcoming/New Airports, noise modeling shall be conducted by the airport operators and results should be submitted to the Ministry of Environment, Forest and Climate Change while seeking Environment Clearance under the Environment Impact Assessment Notification, 2006.
  - (ii) The airport operators should also develop airport noise zone as specified in paragraph 4 and share the same with Ministry of Housing and Urban Affairs and concerned State Development Authority for necessary land use planning around airport.
  - (iii) The concerned State / Union Territory Development Authorities should not allow any new residential, institutions & commercial facilities and other noise sensitive area falling in the airport noise zone area without any noise reduction measure.
2. Compliance of noise levels applicable to Airport Noise Zone as specified above shall lie with the airport operator and overseen by the Directorate General of Civil Aviation.
3. Airport operators shall prepare Noise Management Plan for compliance of the Airport Noise Standards.
4. Airport Noise Zones:
- (1) The Airport Noise Zone area for each Airport shall be defined as Noise Contour for day and night period by the respective Airport Operator on the basis of existing GSR 751 (E), issued by the Ministry of Civil Aviation (Height Restrictions for Safeguarding of Aircraft Operations) Rules, 2015 published on 30<sup>th</sup> September, 2015 as amended from time to time on Height Restriction for Safeguarding of Aircraft Operation considering all approach and departure funnels and Instrument Flight Procedures (i.e. Instrument Approach Procedures, Standard Instrument Departure & Standard Terminal Arrival Route) in consultation with airports Air Navigation Service Provider as per the Master Plan of the Airport. The same shall be approved by the Directorate General of Civil Aviation and displayed on the website of respective Airport Operators. This activity shall be completed within two years from the date of issuance of the final notification.
  - (2) State / Union Territory Development Authorities should take into consideration of Airport Operations requirements in the airport noise zone area for the land use planning around the airport.
5. Airport Noise Mapping:
- Noise mapping in for all airports should be carried out as per the requirements specified in the Director General Civil Aviation's requirements by the airport operators considering future aircraft movement and traffic projections of the airport as per the Master Plan of the Airport. This information to be displayed at a prominent places at Airports as well as in the website of respective Airport Operator and State / Union Territory Development Authority.
6. Protocol and Measurements Procedure:
- Monitoring protocol and measurements procedure for airport noise zone displayed on the website of the Ministry of Environment, Forest and the Climate Change and the Central Pollution Control Board shall be followed.
7. Development Authorities / Regional Planning Department shall specify provisions for inclusion of sound resistance in new buildings, facilities and projects of residential, institutional, hospital and commercial facilities in the design, construction and materials selections for improving indoor environment under existing building codes and bye laws for any building constructions coming under airport noise zones.

8. All the Airport, Airline and Authority shall comply with the requirements specified in the notification within two years from the date of notification. ”.

[F.No. Q-15017/31/2015-CPW]

Dr. A. SENTHIL VEL, Scientist 'G'

**Note :** The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), *vide* number S.O. 844 (E), dated the 19<sup>th</sup> November, 1986 and last amended *vide* notification G.S.R. 263(E), dated the 22<sup>th</sup> March, 2018.

# **Monitoring Protocol and Measurements Procedures** **for** **Airport Noise Zone**

## **1. Objective:**

- 1.1. The objective of this document is to specify suitable requirements and procedures for carrying out monitoring of ambient noise levels around airports due to aircrafts. A proper database is essential for planning and executing suitable noise control programme for airports in the country.
- 1.2. This protocol is applicable to all civil airports which operate for passenger and cargo operation.

## **2. Background:**

The Central Pollution Control Board has developed guidelines on requirement and procedure for monitoring ambient noise level due to aircraft in June 2008. As per noise mapping studies, the guidelines on requirement and procedure for monitoring ambient noise level due to aircraft needs to be modified considering international practices and upcoming airport noise standards. The guidelines on requirement and procedure for monitoring aircraft noise (protocol) for existing and upcoming airports and airport noise zone is given in the noise index.

## **3. Noise Index:**

- 3.1. It is proposed that Day and Night Average Sound Levels (Leq) shall be used to know the sound exposure on residents/zones due to aircrafts and for land use planning and control around airports by development authorities.
- 3.2. The measurement of aircraft noise will be according to airport noise standard, the unit will be in dB(A) in Leq for Day and Night periods. The measurements of units are as per the timing given below.
  - 3.2.1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
  - 3.2.2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
  - 3.2.3. dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
  - 3.2.4. "Decibel" is a unit in which noise is measured.
  - 3.2.5. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
  - 3.2.6. Leq: It is energy mean of the noise level, over a specified period.

3.3. All Civil airports have to follow the Civil Aviation Requirements specified for the Airports for noise mapping, monitoring and action plans and amendments thereof.

**4. Event Detection:**

4.1. Different event detection techniques can be used depending on the situation, as given below:

4.1.1. Event may be considered to start and end 10 dB below the A-weighted maximum sound pressure level of an aircraft operation.

4.1.2. Event may be considered above a threshold value, which may be kept 5 dB above the background sound level.

4.2. Events of less than 10 seconds duration shall not be recorded as these may be from sources other than aircraft movements. Experience shall also be used to differentiate and exclude noise from sources other than aircraft operations.

**5. Site Selection:**

5.1. The site shall be so selected to minimise disturbances from other sources for proper event detection.

5.2. The minimum A-weighted maximum sound pressure level from aircraft movements shall be at least 15 dB above the background noise level.

**6. Type of Monitoring Stations:**

6.1. Monitoring stations should be permanent for all runway approaches. For mobile monitoring it can be either mobile vans mounted or portable noise monitoring terminal can be used as temporary stations.

**7. Number and Location of Monitoring Stations:**

7.1. At least two permanent stations shall be installed per runway.

7.2. The permanent monitoring stations shall be located on both sides of the runway, at the nearest residential area / silence zone and as far as possible under the flight paths of the aircrafts.

7.3. In addition, temporary stations shall be used for specific noise monitoring activity under the flight paths, where noise levels are expected to be higher.

**8. Instrumentation:**

- 8.1. The instrument system, shall meet the requirements for a class 1 instrument specified in IEC 61672-1 (2002) Class 1.
- 8.2. Noise monitoring station shall consist of a weatherproof microphone, a data storage and analysis device and an information transmission system such as a land line phone / GSM (Global System for Mobile Communications).

**9. Installation of Sound Level Meter:**

- 9.1. Sound Level Meter shall be installed in flat terrain having no excessive sound absorption characteristics such as thick, matted or tall grasses, shrubs, or wooded areas.
- 9.2. No obstructions significantly influencing the sound field from the aircraft shall exist within a conical space above the point on the ground vertically below the microphone.
- 9.3. The cone is defined by an axis normal to the ground and by a half-angle of 80 degrees from this axis. The microphone height shall be at least 4 m, preferably 10 m, above the ground level.

**10. Meteorological Measurement:**

- 10.1. Meteorological parameters such as wind speed, wind direction, relative humidity, air temperature and occurrence of rain shall be recorded.

**11. Noise Monitoring:**

- 11.1. Noise monitoring shall be carried out continuously for 24 hours a day, 365 days a year in permanent stations.
- 11.2. In temporary stations, noise shall be monitored continuously for minimum 7, as per requirements.

**12. Parameters to be monitored:**

- 12.1. One second sound level (LAeq i) shall be recorded for 16 hrs day time (6:00 AM to 10:00 PM) and for 8 hrs night time (10:00 PM to 6:00 AM) shall be monitored.

**13. Data Reporting:**

- 13.1. The noise monitoring data shall be regularly compiled, documented and published by the Authorities designated by the Ministry of Civil Aviation.