

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE,

CHENNAI

OA No. 66 of 2023 (SZ)

IN THE MATTER OF:

P. Bala Murali Krishna,  
No. 1052, Sri Sai Nilayam,  
8<sup>th</sup> Main Chowdeswari Layout,  
Marathahalli, Bangalore – 37.

....Applicant

Vs.

Hindustan Aeronautics Limited,  
Airport Services Centre (BC),  
HAL – Bangalore Complex,  
Gate No. 30, Vimanapura,  
Bangalore – 560017 & Ors

....Respondents

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**Vs.**

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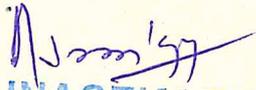
....Respondents

**REPLY STATEMENT FILED BY THE 1<sup>st</sup> RESPONDENT**

The Respondent abovenamed states as follows:

1. The 1<sup>st</sup> Respondent denies all the allegations and averments contained in the Application filed by the Applicant except those that are specifically admitted herein and puts the Applicant to strict proof of rest of the allegations not admitted in this Reply Statement.
2. The Address for service on the 1<sup>st</sup> Respondent is that of their Counsel, M/s. Gupta & Ravi Advocates having office at G-1, "Sarada", Door No. 6/24, Thiru. Vi. Ka. 3<sup>rd</sup> Street, Royapettah High Road, Mylapore, Chennai – 600 004.
3. The 1<sup>st</sup> Respondent submits that Hindustan Aeronautics Limited (HAL) is a Company registered under the Companies Act, 1956 having its Registered Office at Bangalore. It has several divisions in Bangalore and other parts of the country. The 1<sup>st</sup> Respondent Company is a premier Public Sector Undertaking functioning under the control of the Department of Defence Production, Government of India and is engaged in the design, development and manufacture of Aircraft, Defence Systems and accessories which are used in the Defence of the nation. In addition



  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre

to the above, the 1<sup>st</sup> Respondent is also involved in maintenance and overhauling of the Aircraft, testing and training of test pilots....etc.

4. The 1<sup>st</sup> Respondent submits that HAL Airport, Bengaluru has been operational since 1941 onwards sans interruption and it has been facilitating test flying requirements of newly manufactured aircrafts, overhauling and designing of prototype aircraft. The 1<sup>st</sup> Respondent submits that apart from the 1<sup>st</sup> Respondent several Defence Establishments such as the Aeronautical Development Agency (ADA), Aeronautical Development Establishment (ADE), Defence Research & Development Organisation (DRDO), Centre for Airborne Systems (CABS), National Aerospace Laboratories (NAL)...etc have been time and again using the HAL Airport to carry out test flying activities vis-à-vis various projects of National Importance.
5. In addition to the above, the Aircraft & Systems Testing Establishment (ASTE), which is a premier establishment in the Indian Air Force (IAF) that conducts flight testing of Aircraft, Airborne Systems and Weapons Stores prior to their induction into the Indian Airforce has been using the HAL infrastructure extensively for decades. It is pertinent to note that Aircraft & Testing Establishment (ASTE) is the only agency under the auspices of the Ministry of Defence to conduct Test Flights of fighter aircraft and its systems. Therefore, it is evident from the foregoing that HAL Airport, Bengaluru and its associated airspace are valuable assets since its infrastructure and facilities are largely being used by varied Defence establishments and agencies for projects of National Importance and in National Interest. In view of the same, HAL Airport has been declared as a Restricted Airspace vide the Aeronautical Information Publication (AIP), India with unlimited vertical limits, a copy of which has been annexed as Annexure 1
6. The 1<sup>st</sup> Respondent submits that the HAL Airport at Bengaluru was operating Domestic and International Flights until 23<sup>rd</sup> May, 2008 with 360 Aircraft Movements daily and on an average handled 10.2 million passengers on 24\*7 basis. The 1<sup>st</sup> Respondent submits that HAL Airport was closed for commercial operations vide Executive Order dated 16/05/2008. The Executive Action for

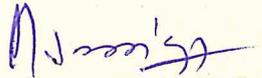


*S. Gunasekaran*  
**S GUNASEKARAN**  
 Additional General Manager  
 Airport Services Centre

closing of HAL Airport was necessitated due to Clause 5.5 of the Concession Agreement executed between the Ministry of Civil Aviation and the Private Airport Operator i.e. Bangalore International Airport (BIAL) till 2033. The 1<sup>st</sup> Respondent submits that presently also HAL Airport is operational 24\*7 and supporting projects of National Importance and projects for sustainable growth of Civil Aviation. The 1<sup>st</sup> Respondent submits that re-opening of HAL Airport for civil commercial operations is in the pipeline considering the phenomenal growth of civil aviation and for effective utilization of the existing infrastructure.

7. The 1<sup>st</sup> Respondent submits that one of the reliefs sought for by the Applicant in the Application is for a direction to this Respondent to scrupulously follow the noise levels permitted by Central Pollution Control Board for Day-time and Night-time in residential areas. In response to the same, the stand of the 1<sup>st</sup> Respondent is as stated below.
8. The 1<sup>st</sup> Respondent submits that the Ministry of Environment, Forest and Climate Change notified the ambient air quality standards with respect to noise in Airport Noise Zone on 18<sup>th</sup> June, 2018. As per the said Notification, Ambient Air Quality Standards were laid down with respect to Noise in Airport Noise Zone based on a classification of Airports as Busy Airports and All other Airports excluding proposed Airports. For Busy Airports, a limit of 70 dB during Day time (6 am to 10pm) and 65 dB during Night Time (10pm to 6 am) has been laid down as permissible noise limits as per the said Notification. For other Airports, a limit of 65 dB during Day time and 60 dB during Night Time has been laid down as permissible noise limits. But, the above specified limits is to have a tolerance limit of 10 dB(A) Leq.
9. The 1<sup>st</sup> Respondent submits that the Noise Standards within the overall boundary of Airports was to be equivalent and applicable as "Industrial Zones" and the Noise Limits specified in the said notification for areas falling under the Airport Noise Zone was to replace and supersede the Ambient Air Quality in respect of noise limits of the zones such as Silence, Residential and Commercial Areas. But, as per the said Notification, the above specified limits is to exclude Defence Aircraft

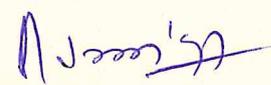


  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre  
HAL(BC)

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.

10. The 1<sup>st</sup> Respondent further submits that the noise standards within the overall boundary of Airports is to 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 which is to be measured at different points of airport boundary and then averaged.
11. The 1<sup>st</sup> Respondent submits that in view of the exclusion carved out under the said Notification for Defence Aircraft, the Ambient Air Quality Standards with respect to noise in Airport Zones will not be applicable to HAL Airport which is predominantly a Defence Airport wherein all activities including testing and flying of different aircrafts and jets are undertaken for various Defence Projects by various establishments on behalf of the Ministry of Defence, Government of India in National Interest.
12. The 1<sup>st</sup> Respondent submits that the Office of the Director General of Civil Aviation (DGCA) has also issued Civil Aviation Requirements (CAR) dated 14/12/2014 pertaining to Noise Management of Aircraft Operations at Airports under Section 5A(1) of the Aircrafts Act, 1934 in conjunction with Rule 29C of the Aircraft Rules, 1937. The 1<sup>st</sup> Respondent submits that the purpose of the CAR was to stipulate the general requirements, procedures and practices to be adhered to by the stakeholders in order to manage the noise generated from aircraft operations inside and in the vicinity of all airports and to reduce its adverse impact on human beings and the environment without hampering the sustainable growth of the industry.
13. The 1<sup>st</sup> Respondent submits that these regulations required Operators to develop a Noise Management Action Plan based on the outcome of a noise mapping study around their airports including the areas directly under flight paths in order to reduce the noise generated from aircraft operations at Airports. The 1<sup>st</sup> Respondent submits that the Airport Operators are required to develop a system



  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre  
HAL(BC)

of monitoring permissible noise limits prescribed by the CPCP and take necessary corrective action if the prescribed noise limits are exceeded.

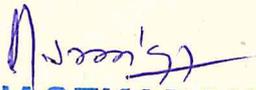
14. The 1<sup>st</sup> Respondent further submits that the CAR Regulations also required Airport Operators to develop noise abatement procedures specific to their Airport to reduce noise such as (a) Continuous Descent Approach in place of step down approaches and Continuous Climb Operations; (b) Optimum and efficient Utilisation of all operational runways on a fixed hourly basis to evenly distribute the noise generated during take-offs and landings; (c) Identify sensitive runways and flight paths from community annoyance point of view; (d) Engine run-up management procedure by identifying such locations where engine run-ups can be performed; (e) GPU/APU Management procedure and provision of Fixed Electrical Ground Power in order to minimize the use of Ground Power Unit and Auxiliary Power Unit during aircraft parking at bay.

15. The 1<sup>st</sup> Respondent submits that the Aircraft operators are also required to develop a procedure to adopt low power and low drag operation in conjunction with Continuous Climb and Descent Approach wherein the airlines is required to follow noise abatement take-off or approach procedure designed to optimize the distribution of noise on the ground while maintaining the required level of safety. The Aircraft Operators are also required to develop Safe Operating Procedures to land at any Airport with minimal use of reverse thrust but without compromising with the safety of the aircraft and its occupants and without compromising runway capacity.

16. Lastly, the Airport Operators are required to carry out engine run-up only at locations earmarked by airport operators for this purpose and they were required to follow use of noise preferential routes to avoid noise-sensitive areas on departure and arrival including use of turns to direct aircraft away from noise sensitive areas located under or adjacent to the usual take-off flight paths as designed by the operator.

17. But, Regulation 2 of the Civil Aviation Regulations states that the said Regulations shall not apply to flights undertaken by Ministry of Defence in the National Interest



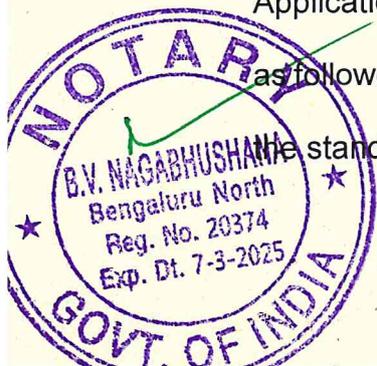
  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre

and for carrying VVIP, Head of States and other eminent personalities and under any emergency situation where it is not possible to follow Noise Abatement Procedure due to technical reasons from safety point of view. Further, flights engaged in search & rescue, patrolling, fire-fighting, humanitarian missions, emergency medical service purposes were also exempted from the requirements mentioned in the CAR.

18. Therefore, In view of the exception carved out under Regulation 2 of the Civil Aviation Regulations excluding its applicability from flights undertaken by the Ministry of Defence in National Interest, the said Regulations also do not apply to HAL Airport which is predominantly a Defence Airport wherein all activities including testing and flying of different aircrafts and jets are undertaken for various Defence Projects by various establishments on behalf of the Ministry of Defence, Government of India in National Interest as reiterated above. In addition to the same, HAL Airport facilities are also being used by VVIPs, Heads of States and other eminent personalities for flying in and out of Bangalore.

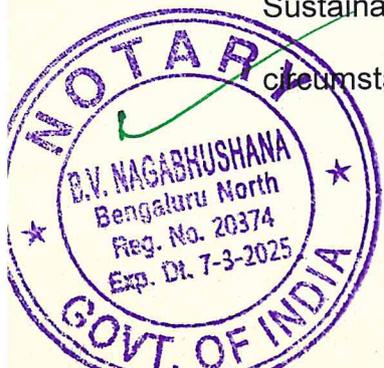
19. In fact, in response to the Application filed by the Applicant complaining about the alleged Noise Pollution caused due to the Operations at the HAL Airport, the noise levels at the HAL Airport were monitored on a 24 hours basis by M/s. Sneha Test House which is approved by the Ministry of Environment and an NABL accredited agency. The Test Report dated 25/09/2023 given by M/s. Sneha Test House indicates that the noise levels in the HAL Airport Premises during the day time as well as the night time are within the Ambient Air Quality Standards in respect of Noise (Copy of the Report enclosed at Annexure 4). Therefore, the allegations of the Complainant that the Noise produced at the HAL Airport during the day-time as well as the Night-time is beyond the Ambient Air Quality Limits and amounts to Noise Pollution are baseless.

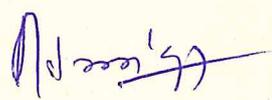
20. The 1<sup>st</sup> Respondent submits that the 2<sup>nd</sup> relief sought for by the Applicant in the Application is for a direction to enforce Night Curfew as against this Respondent as followed by several countries between 10pm and 5am. In response to the same, the stand of the 1<sup>st</sup> Respondent is as stated below.



*S Gunasekaran*  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre  
HAL(BC)

21. The 1<sup>st</sup> Respondent submits that none of the Regulations pertaining to Noise Management of Aircraft Operations at Airports currently in force within India contemplates Night Curfews preventing Flight Operations in Airports during the Night Time. On the contrary, they only lay down restrictions with respect to permissible noise limits along with tolerance limits during night-time within which the Operators are expected to operate and function.
22. But, as reiterated earlier, even the said noise limits prescribed under the said Notification are not applicable to HAL Airport which is predominantly a Defence Airport wherein all activities including testing and flying of different aircrafts and jets are undertaken for various Defence Projects by various establishments on behalf of the Ministry of Defence, Government of India in National Interest.
23. The 1<sup>st</sup> Respondent submits that the issue about the sustainability of imposing a restriction such as a Night Curfew in an Airport from 10pm to 6am as a method of Airport Noise Management and Reduction has already been considered and dealt with by the Principal Bench of this Hon'ble Tribunal in the case of Society for Protection of Culture Heritage & Ors v. The Union of India & Ors in Appeal No. 60/2013, OA No. 115/2013, OA No. 117/2013 and OA No. 90/2014 with MA No. 115/2013 vide its order dated 24/11/2017. In the said case, one of the principal reliefs sought was for a night curfew on flight operations in the Delhi IGI Airport between 10pm to 5am.
24. This Hon'ble Tribunal held that it was necessary to strike a fine balance between Environment Protection in relation to Noise Pollution and other substantive policies founded on socio-economic principles, public good and necessity and thereby permit the State to carry on an activity which is in the interest of the country and public at large. It held that the rights of the people are subject to restrictions which have to be reasonable. Therefore, it was held that to say that the airport should be shut for the entire night would neither be in the consonance with the Principle of Sustainable Development nor would it be an option open to the State in the peculiar circumstances prevailing internationally today. On the basis of the above, the relief



  
**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre  
HAL(BC)

for imposition of night curfew on Airport Operations was declined by this Hon'ble Tribunal as an un-sustainable solution for noise management at Airports.

25. The 1<sup>st</sup> Respondent submits that in view of the nature of activities undertaken at the HAL Airport and considering the fact that the facilities are used by various governmental agencies for various Defence Projects in National Interest, under no circumstances can such activities be paused or stopped during the night-time. It is pertinent to note that the grievance of the Applicant unlike the cases seeking night curfew culminating into the order dated 24/11/2017 passed by the Principal Bench of this Hon'ble Tribunal is not even that his residence is near the Airport runway, but only that his house is situated near the flight-path. Therefore, Night Curfew of Flight Operations will not be feasible at the HAL Airport considering the nature of activities conducted at the Airport and in national interest.

26. The 1<sup>st</sup> Respondent submits that the 3<sup>rd</sup> relief sought for by the Applicant in the Application is for a direction to shift the establishment to any place where flight-path does not cross residential areas. In response to the same, the stand of the 1<sup>st</sup> Respondent is as stated below.

27. The 1<sup>st</sup> Respondent submits that under the provisions of the Aircraft Act, 1934, it was expected that Aerodromes be constructed far away from residential areas of a city in order to protect residences from the noise created by frequent take off and landing. Accordingly, HAL Airport was also built in the year of 1941 in an area that was at a distance from the overtly populated residential areas. However, due to an unprecedented pace and a sudden growth in population, the urban areas in and around HAL Airport became crowded. The 1<sup>st</sup> Respondent submits that the population around HAL Airport has increased considerably in the last 2 decades possibly due to a sudden upsurge in industries in and around that area.

28. The 1<sup>st</sup> Respondent submits that the relief sought for by the Applicant for shifting of operations to another establishment from HAL is misconceived since HAL Airport is not just a conventional Airport like other Airports where only Airport operations take place. The 1<sup>st</sup> Respondent submits that it is also engaged in

activities such as Research and Development of New Defence

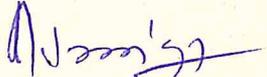


*S Gunasekaran*  
**S GUNASEKARAN**  
 Additional General Manager  
 Airport Services Centre

Aircrafts/Helicopters, extensive manufacture as well as testing of such Defence Aircrafts which take place inside the HAL Airport premises. Further, maintenance and repairs of Defence Aircrafts are also carried out at the said premises. The 1<sup>st</sup> Respondent submits that for carrying out the activities as-stated above, large establishments have been setup wherein the requisite high-end equipments have been placed and extensive facilities have been created inside the HAL Airport premises.

29. In addition to the above, equipment belonging to other Defence Agencies such as Aeronautical Development Agency (ADA), Aeronautical Development Establishment (ADE), Defence Research & Development Organisation, Centre for Airborne Systems, National Aerospace Laboratories are also placed at the HAL Airport premises which are also independently involved in R & D, assembling, manufacturing and testing of Defence Aircrafts for projects of National Importance.
30. The 1<sup>st</sup> Respondent submits that carrying on of the activities as above-stated such as R & D, manufacture, assembling, testing, maintenance and repairs of Defence Aircrafts would be possible only if the establishments engaged in the said activities, are at the proximity of an Airport which is properly equipped for carrying out such activities. The 1<sup>st</sup> Respondent submits that the Airport Operations at the HAL premises are conducted only within an area of approx. 700 acres out of the total of approx. 2450 acres of land. The 1<sup>st</sup> Respondent submits that the rest of area excluding the area used for Airport Operations is used for the other activities as stated above.
31. The 1<sup>st</sup> Respondent submits that to set up HAL Airport, immense infrastructure for manufacturing, assembling and overhauling is required which is already in place at the HAL Airport. Therefore, shifting of such activities would be unviable and would cost the public exchequer massively. Further, the stand taken by the Applicant that the HAL Airport operations can be shifted to some other establishment which is sparsely populated like Jakkur or Yelahanka is a fallacy since the said areas are also becoming increasingly urbanized and populated by the day.



  
**S GUNASEKARAN**  
 Additional General Manager  
 Airport Services Centre  
 HAL(BC)

32. The 1<sup>st</sup> Respondent submits that technically also HAL Airport operations cannot be moved to any other establishment like Yelahanka Airport or Jakkur Airport since those are training airports with a limited runway length while HAL operations for test flying of Military Aircraft and Limited Civil Aircraft require a longer runway. It is pertinent to mention that Jakkur Flying Institute itself has requested permission to use HAL Airport for their flying which has not been agreed to.
33. The 1<sup>st</sup> Respondent further submits that test flying of Aircraft do not just require a runway but also other infrastructure as well such as Arrestor Barriers which are systems installed at the end of the runway to stop the forward movement of an aircraft overshooting the runway in case of a rejected take off or emergency landing with minimal damage to the Aircraft or injury to the crew. They also require Hook Cables that are used by fighter Aircraft and Telemetry Systems which are used for wireless transmission and reception of measured quantities for the purpose of remotely monitoring testing parameters.
34. The 1<sup>st</sup> Respondent submits that the runway and taxiway at Jakkur/Yelahanka is suitable only for small aircraft operations, in view of its dimensions and strength. The runway cannot be extended also due to non-availability of land around the airfield. The 1<sup>st</sup> Respondent submits that HAL being a Defence Airport running Defence Aircraft predominantly is granted an exemption from general regulations that may bind civilian Airports. The Report containing a brief comparison between HAL Airport and Jakkur Airfield is filed as Annexure b.
35. The 1<sup>st</sup> Respondent submits that residents in and around the HAL Airport, have taken the decision of settling down around the said areas only with knowledge about the existence of the Airport and with regard to the operations conducted at the Airport with Defence Aircrafts. It is pertinent to mention that for construction of high-rise buildings within a radius of 20kms from the Airport, it is mandatory to obtain No Objection Certificate (NOC) from the airport authorities for height clearance from the Municipal Authorities. The 1<sup>st</sup> Respondent submits that all allottees of High-rise Buildings are also directed to execute an undertaking in Notarised Stamp Paper for "Not to complain/claim compensation against Aircraft



*S. Gunasekaran*  
**S GUNASEKARAN**  
 Additional General Manager  
 Airport Services Centre  
 HAL/DO

noise, vibrations, damages...etc to me/us or other occupants or to the property or to the house or part thereof to be constructed by us".

36. The 1<sup>st</sup> Respondent submits that the Airport operations undertaken by it are in compliance with the applicable Regulations. Unless there is reasonable scientific data/evidence which suggests that due to failure in taking appropriate preventive measures, there is a plausible indication of some environmental injury or health hazard, no action can be taken merely based on suspicion. In the present case, it is evident that no such hazard exists for taking drastic actions so as to shift the HAL Airport operations or impose a night curfew etc.
37. The case filed by the Applicant is misconceived and has no legal or factual basis. In matters of this nature the interest of the nation is of paramount importance and the personal interest can only be subservient to the national interest.

For the reasons stated above, it is therefore prayed that this Hon'ble Tribunal may be pleased to dismiss the Present Application with costs and thus render justice.

Verified at Bangalore on this 17 NOV 2023 day of November, 2023

For **GURTA & RAVI**

Counsel for Respondent



Respondent

**S GUNASEKARAN**  
Additional General Manager  
Airport Services Centre  
HAL(BC)

SWORN TO BEFORE ME

**B.V. NAGABHUSHANA B.A., LL.B.**  
ADVOCATE & NOTARY  
Govt. of India

10, 1st Main, 2nd Cross, Neelakanteshwara,  
Swamy Temple Road, Sanjeevinagar,  
Hegganahalli, Cross, Bengaluru - 560094.

17 NOV 2023



सत्यमेव जयते

INDIA NON JUDICIAL

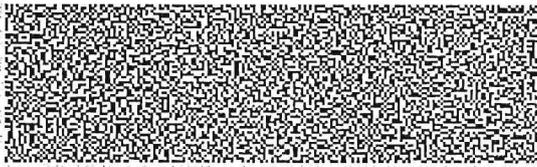
Government of Karnataka

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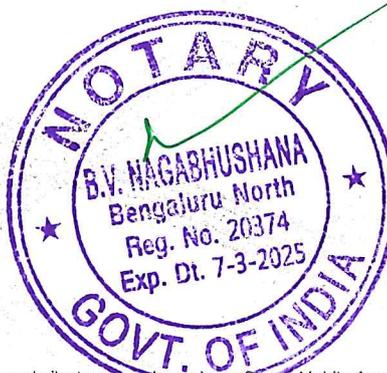
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OA No. 66 of 2023 (SZ)

IN THE MATTER OF:

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 Marathahalli, Bangalore – 37.



*S. Gunasekaran*  
Applicant

**S. GUNASEKARAN**  
 Additional General Manager  
 Airport Services Centre  
 HAL(BC)

Statutory Alert:

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KARNATAKA GOVERNMENT OF KARNATAKA

Vs.

Hindustan Aeronautics Limited,  
Airport Services Centre (BC),  
HAL – Bangalore Complex,  
Gate No. 30, Vimanapura,  
Bangalore – 560017 & Ors

...Respondents

**VERIFYING AFFIDAVIT**

I, S. Gunasekaran, son of S Shanmugam, aged about 54 years, the Additional General Manager (ASC) of the 1<sup>st</sup> Respondent do hereby solemnly affirm and sincerely state as follows:

1. I state that I am the Additional General Manager (ASC) in the 1<sup>st</sup> Respondent Company herein. I am fully aware of the facts and circumstances of the case and competent to swear to this Affidavit.
2. I submit that the statements contained in the Reply Statement are true and correct to the best of my knowledge, information and belief.

*S. Gunasekaran*

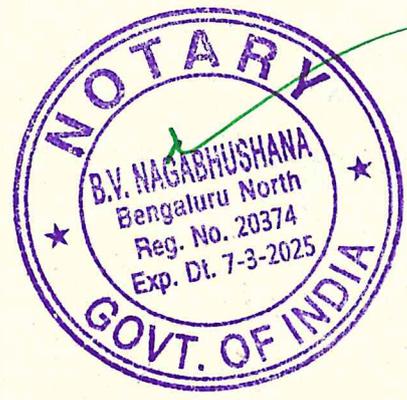
**S GUNASEKARA**  
Additional General Manager  
BEFORE ME, Airport Services Centre  
HAL(BC)

Solemnly affirmed at Bangalore  
on this the 17<sup>th</sup> day of November,  
2023; and signed his name in  
my presence.

**SWORN TO BEFORE ME**

*B.V. Nagabhushana*

**B.V. NAGABHUSHANA B.A., LL.B.**  
**ADVOCATE & NOTARY**  
Govt. of India  
No. 10, 1st Main, 2nd Cross, Neelakanteshwara  
Swamy Temple Road, Sanjeevinagar,  
Hegganahalli Cross, Bengaluru - 560091.



**17 NOV 2023**

| Identification & Name      | Lateral Limits  | Upper Limit/<br>Lower Limit | Type of restriction/Remarks                                      |
|----------------------------|---|-----------------------------|--|
| VOR 181 (A)<br>HAL         | 122805.2N 0791654.9E then along clockwise arc of 100NM radius centered at 125705.1N 0773955.7E to 111805.5N 0772455.8E, 125205.1N 0773955.7E, then along anticlockwise arc of 5NM radius centered at 125705.1N 0773955.7E to 125505.1N 0774455.6E, 122805.2N 0791654.9E.                                  | UNL/<br>GND                 | 1. Test flying,<br>2. Controlling authority ATC (HAL).           |
| VOR 181 (B)<br>HAL         | 124530N 0762715E, 124530N 0771500E, 125205.1N 0772255.8E, 125205.1N 0773755.7E, 113805.4N 0765956.0E, 124530N 0762715E.   | UNL/<br>GND                 | 1. Test flying,<br>2. Controlling authority ATC (HAL).           |
| VOR 181 (C)<br>HAL         | 130000N 0780000E, 125100N 0780000E, 125505.1N 0774455.6E then along clockwise arc of 5NM radius centered at 125705.1N 0773955.7E to 125205.1N 0773955.7E, 125205N 0773755E, 125205N 0772255E, 124530N 0771500E, 124530N 0770830E, 125030N 0770830E, 130100N 0772550E, 130100N 0773706E, 130000N 0780000E. | GND<br>FL460                | 1. Test flying,<br>2. Controlling authority ATC (HAL).           |
| VOR 181 (D)<br>HAL         | 130000N 0780000E, 130000N 0782500E, 124500N 0782500E, 125100N 0780000E, 130000N 0780000E.   | GND<br>FL460                | 1. Test flying,<br>2. Controlling authority ATC (HAL).           |
| VOR 182 (A)<br>Sulur-I     | Area bounded by 103205.7N 0770156.0E; 103205.7N 0770755.9E; 100405.8N 0773455.7E; 100405.8N 0765156.0E; 102005.8N 0765156.0E; 103205.7N 0770156.0E.   | FL140/<br>GND               | 1. Test flying,<br>2. Controlling authority ATC Bangalore (HAL). |
| VOR 182 (B)<br>Sulur-II    | Area bounded by 105705.6N 0772755.8E; 102005.8N 0775955.5E; 103205.7N 0781355.4E; 104905.6N 0780955.5E; 110335.6N 0781725.4E; 111405.5N 0781225.4E; 110905.5N 0772755.8E; 105705.6N 0772755.8E.   | UNL/<br>GND                 | 1. Local flying area,<br>2. Controlling authority ATC Sulur.     |
| VOR 183 (A)<br>Tambaram-I  | Area bounded by 125705.1N 0801554.5E; 125605.1N 0800554.6E; 115305.4N 0792654.9E; 114605.4N 0794854.7E; 125705.1N 0801554.5E.   | 45000F/<br>GND              | 1. Local flying area,<br>2. Controlling authority ATC Tambaram.  |
| VOR 183 (B)<br>Tambaram-II | Area bounded by 125305.1N 0792954.8E; 124205.2N 0795754.6E; 115305.4N 0792654.9E; 125305.1N 0792954.8E.   | 45000F/<br>15000'           | 1. Local flying area,<br>2. Controlling authority ATC Tambaram.  |

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| Identification & Name    | Lateral Limits   | Upper Limit/<br>Lower Limit | Type of restriction/Remarks   |
|--------------------------|--|-----------------------------|---|
| VOR184<br>Vishakhapatnam | Area bounded by 174423.8N 0831430.0E; 174410.8N 0831445.0E; 174343.8N 0831513.0E; 174328.8N 0831516.0E; 174323.8N 0831417.0E; 174356.8N 0831402.0E; 174423.8N 0831430.0E.  | UNL/<br>GND                 | Explosive area.   |
| VOR 185(A)<br>Yellahanka | 130730N 0771636E; 130730N 0780000E; 130000N 0780000E; 130100N 0773706E; 130100N 0771805E; THEN ALONG CLOCKWISE ARC OF 20NM CENTERED AT 130800N 0773700E(YELAHANKA) TO 130730N 0771636E.  | 6000' AMSL<br>GND           | 1. Local flying area.<br>2. Controlling authority ATC Yellahanka 118.1 MHz              |
| VOR 185(B)<br>Yellahanka | 132455N 0772620E, 133330N 0772045E then along anticlockwise arc of 30NM radius centered at BANGALORE ARP (131155.9N 0774219.7E) to 130100N 0771410E, 130100N 0771805E then along clockwise arc of 20NM radius centered at 130800N 0773700E (Yellahanka) to 132455N 0772620E  | 6000' AMSL<br>GND           | 1. Local flying area.<br>2. Controlling authority ATC Yellahanka 118.1 MHz.             |
| VOR 185(C)<br>Yellahanka | 130730N 0780000E, 130730N 0780900E, 131400N 0780900E, 131400N 0782500E, 130000N 0782500E, 130000N 0780000E, 130730N 0780000E.  | 6000' AMSL<br>GND           | 1. Local flying area.<br>2. Controlling authority ATC Yellahanka 118.1 MHz              |
| VOR 185(D)<br>Yellahanka | 133330N 0772045E, 142500N 0764700E then along anticlockwise arc of 90NM radius centered at 130800N 0773700E (Yellahanka) to 132900N 0760500E, 125030N 0762500E, 125030N 0770830E, 130100N 0772550E, 130100N 0771410E then along clockwise arc of 30NM radius centered at BANGALORE ARP (131155.9N 0774219.7E) to 133330N 0772045E. | FL200<br>GND                | 1. Local flying area.<br>2. Controlling authority ATC Yellahanka 118.1 MHz.             |
| VOR 186<br>Hyderabad     | Area bounded by 191903.2N 0755956.3E; 194303.1N 0770955.7E; 185203.4N 0792654.7E; 173303.8N 0794954.6E; 173503.8N 0785954.9E; 173003.8N 0785954.9E; 173003.8N 0782355.2E; 173903.7N 0775355.5E; 173603.7N 0765955.9E; 191903.2N 0755956.3E.  | FL240/<br>GND               | 1. Local flying area.<br>2. Controlling authority ATC Hyderabad.                        |
| VOD 187<br>Sameerpet     | Area bounded by 173203.8N 0783455.1E; 173703.7N 0784155.1E; 173203.8N 784155.1E; 173203.8N 0783455.1E.   | 4000FV<br>GND               | Field firing range.   |
| VOD 188<br>Chengalpattu  | Area bounded by 124005.2N to 124505.2N and 0795954.6E to 0800454.6E.   | 19000FV<br>GND              | 1. Missile firing range.<br>2. Activities will be notified by NOTAM; 7 days in advance. |

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

**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.**

Suj  
PPCC

Rsw  
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 संचलन 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. सेंथिल 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>nd</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.



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

**CIVIL AVIATION REQUIREMENTS**  
**SECTION 10 – AVIATION ENVIRONMENT PROTECTION**  
**SERIES 'A' PART I**  
**ISSUE I, 18<sup>TH</sup> DECEMBER, 2014**

**EFFECTIVE: FORTHWITH**

F. No. 04-01/2010-AED (Vol. II)

**Subject: Noise Management of Aircraft Operations at Airports.**

**1. INTRODUCTION**

1.1 Noise represents one of the most significant environmental challenges associated with aircraft and airport operations. Over the years, there have been significant improvements based on technology evolution, effective noise abatement procedures and other measures. At the same time, given the industry's growth and the presence of population agglomerations near airports, large parts of population are still affected by aircraft noise.

1.2 Reducing the effect of aircraft noise on people and communities is one of ICAO's main priorities. ICAO had adopted the "Balanced Approach" to address aircraft noise which is based on four pillars: 1) Reduction of noise at source; 2) Land use planning and management; 3) Noise abatement operational procedures; and 4) Operating restrictions. It provides ICAO Contracting States with an internationally agreed method for addressing aircraft noise in a comprehensive manner.

1.3 To address the aircraft noise related issue in an objective manner, this Civil Aviation Requirements (CAR) is issued in compliance to Section 5A sub-section 1 of the Aircraft Act, 1934 in conjunction with rule 29C of the Aircraft Rules, 1937.

1.4 This CAR stipulates the general requirements, procedures and practices to be adhered to by the stakeholders in order to manage the noise generated from aircraft operations inside and in the vicinity of all airports and to reduce its adverse impact on human beings and the environment without hampering the sustainable growth of the industry.

**2 APPLICABILITY**

The provisions of this CAR shall be applicable to the following:

- 2.1 Airports meeting the criteria as mentioned in the *Requirement and Procedure for Monitoring Ambient Noise Level due to Aircrafts* issued by the Central Pollution Control Board, Ministry of Environment & Forest (MOEF) in June 2008.
- 2.2 All Indian scheduled and non-scheduled passenger and cargo aircraft operators engaged in commercial operations including General Aviation.
- 2.3 The provisions of this CAR are not applicable to flights undertaken by Ministry of Defence in the national interest and for carrying VVIP, Head of States and other eminent personalities and under any emergency situation where it is not possible to follow noise abatement procedure due to technical reasons from safety point of view. Further, flights engaged in search & rescue, patrolling, fire-fighting, humanitarian missions, emergency medical service purposes are also exempted from the requirements mentioned in this CAR.

**3 REQUIREMENTS**

**3.1 Airports**

- 3.1.1 Airport operators shall carry out a noise mapping study around their airports including the areas directly under the flight paths, to assess the existing noise loads and the population affected within the various noise contours/maps using an internationally accepted noise model and actual data (e.g. flights, aircraft types, routes used, radar tracks, etc.). Noise maps shall be validated with actual field noise measurements data.
- 3.1.2 Airport operators shall develop a Noise Management Action Plan based on the outcome of the noise mapping study. The airport operator shall implement the same to reduce the noise generated from aircraft operations at airports.
- 3.1.3 Airport operators shall update their noise maps and noise management action plans in view of the forecasted traffic growth to their airports at least once in five years.
- 3.1.4 For the purpose of noise mapping and noise management action plan, airport operators shall follow guidelines contained in Annexure I to this CAR.
- 3.1.5 Airport operators shall establish a fully operational real-time permanent Noise Monitoring System (NMS) in accordance to the provisions of the '*Requirement and Procedure for Monitoring Ambient Noise Level due to Aircraft*' issued by the Central

Pollution Control Board of Ministry of Environment & Forest (MOEF) in June 2008 and the Minimum Technical Characteristics of the NMS as contained in Annexure II to this CAR.

3.1.6 Airport operators shall use additional mobile NMTs (e.g. portable/mobile) for monitoring of noise in sensitive areas such as residential/silence zones in the vicinity of the airport.

3.1.7 Airport operators shall develop a system of monitoring permissible noise limits prescribed by the Central Pollution Control Board, State Pollution Control Board or any other applicable authority in respect to a particular airport. The airport operators shall take necessary corrective action against any exceedences to prescribed noise limits.

3.1.8 The report on noise monitoring from the NMS shall be submitted to DGCA on annual basis. The noise monitoring reporting requirements are contained in Annexure III to this CAR.

3.1.9 Airport operator shall develop following noise abatement procedures specific to their airport, jointly with AAI/ATC in order to reduce/minimize the noise generated through aircraft operations at their airports:

- i) Continuous Descent Approach (CDA) at all airports in place of step down approaches and Continuous Climb Operations (CCO).
- ii) Optimum and efficient utilization of all the operational runways on a fixed hourly basis in order to evenly distribute the noise generated during take-offs and landings. It will be the sole responsibility of the airport operator to identify the sensitive runways and the flight paths from community annoyance point of view.
- iii) Engine run up management procedure by identifying such locations where engine run-ups can be performed along with information about aircraft orientation, permissible time of day, maximum permissible thrust level and duration, etc.
- iv) GPU/APU Management procedure and provision of Fixed Electrical Ground Power (wherever applicable) in order to minimize the use of Ground Power Unit (GPU) and Auxiliary Power Unit (APU) during aircraft parking at bay.

**3.2 Aircraft Operators**

3.2.1 Aircraft operators shall develop procedure to adopt low power and low drag operation in conjunction with Continuous Climb and Descent Approach, wherever

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**CIVIL AVIATION REQUIREMENTS  
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such procedures have been developed by the airport operator/ATC and are in place. In this regard, the airlines shall follow noise abatement take-off or approach procedures designed to optimize the distribution of noise on the ground while maintaining the required level of safety. Pilot must plan the continuous descent in such a manner that the aircraft does not fly level for 2nm during any stage of descent. Further, thrust reduction altitude for all aircraft should be not later than 1500 ft AGL.

3.2.2 Aircraft operators shall also develop safe operating procedures to land at any airport with minimal use of thrust reverse. Such procedures shall be developed for compliance without compromising with the safety of aircraft and its occupants as well as without compromising the runway capacity. The flight crew shall have the final authority to decide on use of thrust reverser on case to case basis. It shall be the sole responsibility of the airlines to provide enough training to their pilots in this regard.

3.2.3 Aircraft operators shall carry out all engine run-up only at locations earmarked by airport operator for this purpose.

3.2.4 Aircraft operators shall follow use of noise preferential routes to avoid noise-sensitive areas on departure and arrival, including the use of turns to direct aircraft away from noise-sensitive areas located under or adjacent to the usual take-off flight paths as designed by airport operator/ATC/AAI for this purpose. It will be the sole responsibility of the aircraft operators to provide enough training to their pilots in this regard.

**4 MONITORING AND SURVEILLANCE**

The DGCA shall monitor the information provided by the airports and airlines to ensure proper compliance with the provisions contained in the said CAR from time to time.

(Dr. Prabhat Kumar)  
Director General of Civil Aviation

Annexure I

Minimum Requirements for Noise Studies and Noise Management Action Plans

Phase 1: Noise Mapping & Validation

i) Noise maps shall be developed with the use of specialized software (such as INM 7 or higher, CadnaA, IMMI, or others) The noise maps shall take into consideration actual air traffic data (e.g., types of aircraft, number of movements, distribution of runway use, landing and take-off paths), meteorological data, sensitive receptors, and (if necessary/possible) 3D terrain model and land uses.

ii) Following indices may be calculated: Lden (where day is 0600-1800, evening 1800-2200, and night 2200-0600), Lday, Levening, Lnight, LDE (where day is 0600-1800 and evening 1800-2200 with no penalty), Leq-24h, DNL (where day is 0600-2200 and night 2200-0600), and LAmax.

iii) The noise mapping/validation phase and the relevant detailed report shall include at least the following:

a) Background information about the airport (e.g., location, runways, number of flights and passengers, runway usage, flight movements per aircraft type for day and night time, main take-off and landing flight paths, past noise measurement history (if any), existing noise abatement procedures, population and land-use information in the vicinity of the airport, other noise sources and sensitive receptors, description of the Noise Monitoring System, if available).

b) Detailed description of the noise model and the methodology, including actual model input data (e.g., number of flights, aircraft categories/types, flight paths used, flight procedures, radar tracks if used), assumptions, calculation process, metrics, preliminary results, etc.

c) Results of noise mapping shall be validated using actual measurements of aircraft noise around the airport, preferably at the points as chosen during the modeling. For airports with established NMS, data for the same calendar year for which the model was run shall be used plus additional 24 hour measurements for all the above indices, where required. If data from an NMS are not available, 24 hour measurements should be carried out using mobile units. Depending on the validation results and especially the comparison/evaluation of measured data vs theoretical data from the model computed at the exact measurement location for the air traffic volumes and characteristics of the measurement period, an update of noise-mapping may be required.

d) Presentation and assessment of the noise mapping results, including calculations of the area and population in each noise zone, as well as at sensitive receptors (e.g., hospitals, schools, archaeological sites, protected areas). The results will be calculated and presented at least for the following noise indices: Lden, Lday, Levening, Lnight, LDE, Leq-24h, DNL, and LAmax. The presentation of results in the form of noise contour maps and tables will be based on 5 dBA intervals starting from 55 dBA to >75 dBA for all metrics, except for Lnight which should start from 45 dBA. The report should include a comparison with the limits set in the Ministry of Environment and Forests, Noise Pollution Rules of 2000 and other guidelines or limits.

**Phase 2: Action Plan**

The Action Plan shall be created following the review/approval of Phase 1 by the DGCA. The airport operator shall ensure the involvement of the stakeholders that will be responsible for the implementation of the action plan. The Action Plan should include at least the following:

- a) Executive summary.
- b) Description of the airport.
- c) Legal context, including limits and assessment criteria.
- d) Summary of Phase 1 results.
- e) Evaluation of the area and estimated number of people in each noise zone, identification of problematic areas and situations that require improvement. Description of noise abatement measures already in force.
- f) Presentation of noise-reduction measures based on international best practices and subsequently formulation of measures to reduce the noise impact, including environmental, operational and financial assessment of each of the proposed measures. The measures to be evaluated shall include, depending on the specific airport operations: noise abatement operational procedures, operating restrictions, land use planning and management, and other initiatives. For the proposed measures (where relevant) new calculation of the noise curves is required to determine expected improvements in terms of area covered, exposed population, etc.

During the development of this section, ICAO's DOC 9821 AN/451 *Guidance on the Balanced Approach to Aircraft Noise Management* (latest edition) should be taken into consideration.

Annexure II

Minimum Technical Characteristics of Noise Monitoring Systems (NMS)

- a) The establishment of the NMS shall be in accordance to the *Requirement and Procedure for Monitoring Ambient Noise Level due to Aircrafts* issued by the Central Pollution Control Board of MOEF in June 2008. The establishment of the NMS shall also consider the requirements of ISO20906: 2009 "*Acoustics: Unattended monitoring of aircraft sound in the vicinity of airport*" or other similar standard.
- b) At least two permanent Noise Monitoring Terminals (NMTs) shall be installed per runway with more than 25,000 movements (where a movement is a take-off or a landing). The permanent NMTs shall be located on both sides of the runway, in the nearest residential area and, as far as possible, under the flight paths of the aircraft. At least one mobile NMT (e.g., portable/mobile) shall be used for measurements in the residential areas/silence zones and under the flight paths, where noise levels are expected to be high.
- c) Noise monitoring shall be carried out continuously in accordance to the provisions of the '*Requirement and Procedure for Monitoring Ambient Noise Level due to Aircraft*' issued by the Central Pollution Control Board of Ministry of Environment & Forest (MOEF) in June 2008. The NMTs shall be placed in locations to minimize disturbances from other noise sources, obstructions, etc.
- d) The NMS shall be comprised of a central receiving station to download, process, archive and visualize data collected and transmitted from all NMTs as well as from the airport's flight information system. All the NMTs should be operational in a real time mode and the central station should be able to access the NMTs in network mode. The communication between NMTs and the central receiving station must be two-way. The NMTs should be controllable (on/off, change of parameters) remotely via the central receiving station.
- e) The NMTs should have a stand-alone operating terminal, appropriate for outdoor installation for continuous measurement of aircraft noise. On-site data storage should be available for a minimum of 7 days, in case of communication disruptions.
- f) Data must have portability to the central receiving station.
- g) The software installed on the central receiving station must be user-friendly and able to undertake data acquisition, permanent data archival/storage, data/statistics analysis and display, provision of map background, report generation, and correlation with flights, with the additional possibility of relaying data of flights based on radar data for future update of the system.

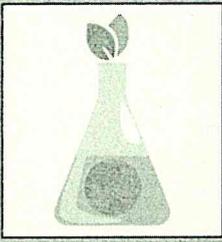
CIVIL AVIATION REQUIREMENTS  
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- h) The NMTs should be field operational and tolerant to extreme environmental conditions in India, in high or low temperatures, high rainfall, high humidity coastal conditions and high temperature desert conditions. The microphone shall be weather-proof and placed at a height of between 6 to 10 meters above ground level.
- i) The NMT should have an audio data storage facility for listening and storing noise events. The NMTs should have provisions for optional camera attachment and processing of relevant data.
- j) The NMTs shall be capable of recording meteorological data such as wind direction and speed, relative humidity, air temperature, etc.
- k) The NMTs (including the microphone) should conform to IEC 61672-1(2002-05) Class 1 standards, self-calibrating option type. Acoustical calibration and verification should be in accordance to the provisions of ISO20906: 2009.
- l) The NMS should be able to segregate the noise from other sources, such as vehicle traffic and industrial noise, and the noise generated due to aircraft operations.
- m) The NMS should be able to be adjusted for different types of event detection processes (e.g., specific noise level threshold, duration of noise event, consideration of background noise level).
- n) The NMS should have the capability to generate daily, weekly, monthly and annual reports for each and all of the stations for at least the following indicators (daily, monthly, annually): Lday (0600-1800), Levening (1800-2200), Lnight (2200-0600), Lde (0600-2200), Lden (day: 0600-1800, evening: 1800-2200, night: 2200-0600), LAmax, DNL, TDNL, EDNL, BDNL (as defined in the *Requirement and Procedure for Monitoring Ambient Noise Level due to Aircrafts*, CPCB, MOEF, 2008), Ln10, Ln90, Ln50, and Lmin.
- o) The NMS shall have the provision for interface with radar data on real time basis.

Minimum Noise Reporting Requirements

- a) Summary monthly and hourly distribution of flight movements
- b) Summary distribution of flight movements per aircraft type
- c) Runway use statistics
- d) Description of NMS and existing limits
- e) Data on enforcement of Noise Abatement Procedures (including violation data where appropriate).
- f) Noise monitoring results for all relevant metrics, such as Lday, Levening, Lnight, Lde, Lden, LAmax, etc. (including data reliability information)
- g) Engine run-up data (e.g., types of aircraft, airlines)
- h) Noise complaints
- i) Diagnostic and self-testing calibration
- j) Other relevant information (e.g., future plans)



# SNEHA TEST HOUSE

Recognised by MOEF & CC, under  
EPA 1986, Govt. of India

## TEST REPORT

# 8 & 28, 4th Cross, Maruthi Nagar,  
Chandra Layout, 80 Feet Road,  
Nagarabhavi, Bengaluru - 560 072  
Phone : 080-23180113, 23390341, 23390737  
Accounts : 080-23393132  
Mobile : 98440 27167, 9611324429  
E-mail : lab.snehatesthouse@gmail.com  
snehanagaraj09@gmail.com  
Web : www.sthlab.com

### NOISE TESTING

|                             |  |                         |                  |
|-----------------------------|--|-------------------------|------------------|
| Report No:                  | 8886   | Customer Code No.:      | Nil              |
| Issued To:                  | M/S.AIRPORT SERVICE CENTER<br>YIMANAPURA (P).<br>H.A.L. BANGALORE-560017 | Sample Receipt Date:    | 25.09.2023       |
| Nature of sample:           | Ambient Noise Monitoring IN Leq-dB(A)                                    | Start of Analysis Date: | -                |
| NOMENCLATURE<br>MAKE/ MODEL | Sound level meter/ C 390,191007601                                       | Completion Date:        | -                |
| Date of Sampling:           | 22.09.2023(06:00 pm) TO 23.09.2023 (06:00 pm)                            | Report Date:            | 25.09.2023       |
| Sampling procedure:         | STH/QSP/7.3/01   | Sampled By:             | Mr. KUMAR        |
| GROUP:                      | ATMOSPHERIC POLLUTION  |                         | Page No:- 1 of 1 |

### AMBIENT NOISE LEVEL MONITORING REPORT

| SAMPLE LOCATION  | TEST PARAMETER                                   | SOUND LEVEL DB(A) |      | RESULT<br>Leq dB(A) | TEST METHODS   |
|--|--|-------------------|------|---------------------|----------------|
|  |  | Min               | Max  |                     |                |
| Opposite Of<br>LCA-Tejas<br>Division<br>Gate-<br>Car/Two<br>WHEELER<br>PARKING<br>AREA | Day time Noise Level<br>(06:01 AM to 10:00 PM)   | 55.4              | 62.6 | 58.89               | IS: 9989: 1981 |
|  | Night time Noise Level<br>(10:01 PM to 06:00 AM) | 46.2              | 52.6 | 49.30               | IS: 9989: 1981 |

### Ambient Air Quality Standards In Respect Of Noise

| Area | Category Of Area | Limits in dB(A) |            |
|------|------------------|-----------------|------------|
|      |                  | Day Time        | Night Time |
| (A)  | Industrial Area* | 75              | 70         |
| (B)  | Commercial Area  | 65              | 55         |
| (C)  | Residential Area | 55              | 45         |
| (D)  | Silence Zone     | 50              | 40         |

|           |  |
|-----------|--|
| INFERENCE | As per KSPCB standards.<br>Report Status: - Noise level within the limits. |
|-----------|--|

\*\*\*END OF REPORT\*\*\*

Verified By



- NOTE :
1. Test results refer only to the tested samples and applicable. 2. The Sample will be preserved for a maximum of 10 days on request.
  3. The test report shall not be reproduced in part or full and cannot be used as evidence in court of law without prior permission in writing.
  4. Total liability of our laboratory is limited to the invoice amount. 5. Sample (s) not drawn by us unless otherwise stated.

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH  
NEW DELHI**

.....

**APPEAL NO. 60 OF 2013 (T<sub>HC</sub>)**

**IN THE MATTER OF:**

Society for Protection of Culture Heritage,  
Environment, Traditions and Promotions of  
National Awareness (CHETNA)  
A-417 – 418, Som Dutt Chambers – I,  
5 – Bhikaji Cama Place,  
New Delhi - 110066

.....Appellant

Versus

1. The Union of India
  - (A) Through the Secretary  
Ministry of Civil Aviation,  
Rajiv Gandhi Bhavan,  
Safdarjung Airport,  
New Delhi-110003
  - (B) Through the Secretary  
Ministry of Environment and Forests,  
Paryavaran Bhavan, CGO Complex  
Lodhi Road,  
New Delhi-110003
2. The Director General of Civil Aviation  
Opp. Safdarjung Airport,  
Aurbindo Marg,  
New Delhi-110003
3. The Chairman  
Central Pollution Control Board  
Parivesh Bhawan  
CBD-cum-Office Complex  
East Arjun Nagar  
Delhi-110032
4. The Chief Operating Officer  
Delhi International Airport Ltd.,  
Udaan Bhawan,  
Terminal 1 B, IGI Airport  
New Delhi – 110037

5. Airports Authority of India  
 (Service to be effected through  
 Its General Manager (ATC)  
 Rajiv Gandhi Bhawan  
 Safdarjung Airport  
 New Delhi-110003

.....Respondents

AND

**ORIGINAL APPLICATION NO. 115 OF 2013 (T<sub>HC</sub>)**

**IN THE MATTER OF:**

1. Bijwasan Gram Vikas Samiti  
 A Society registered under the  
 Societies Registration Act, 1960  
 Kh. No. 211/2, Near Railway Crossing  
 Bijwasan Village, Delhi-110061  
 Through Mr. Chet Singh Rana,  
 President, Bijwasan Gram Vikas Samiti  
 Bijwasan, Delhi
2. Samalka Residents Welfare Association  
 A Society registered under the  
 Societies Registration Act, 1960, its  
 Registered office at Hira Public School,  
 Samalka Village, New Delhi  
 Through Mr. Harbans Singh,  
 President,  
 Samalka Residents Welfare Association  
 Samalka, Delhi
3. Pushpanjali Farms Owners &  
 Residents Association  
 A Society registered under the  
 Societies Registration Act, 1960, its  
 Registered office at A-8, Pushpanjali Farms,  
 Bijwasan, Delhi-110061  
 Through Mr. Vivek Mahna,  
 President,  
 Pushpanjali Farms Owners & Residents Association  
 Bijwasan, Delhi

.....Applicants

Versus

1. Union of India  
 Through the Secretary  
 Ministry of Civil Aviation,  
 Rajiv Gandhi Bhavan,  
 Safdarjung Airport,  
 New Delhi-110003

2. The Secretary  
Ministry of Environment and Forests,  
Paryavaran Bhavan, CGO Complex  
Lodhi Road,  
New Delhi-110003
3. The Director General of Civil Aviation  
Opp. Safdarjung Airport,  
Aurbindo Marg,  
New Delhi-110003
4. The Chairman  
Central Pollution Control Board  
Parivesh Bhawan  
CBD-cum-Office Complex  
East Arjun Nagar  
Delhi-110032
5. The Chief Operating Officer  
Delhi International Airport Ltd.,  
Udaan Bhawan,  
Terminal 1 B, IGI Airport  
New Delhi – 110037

.....Respondents

AND

**ORIGINAL APPLICATION NO. 117 OF 2013 (T<sub>HC</sub>)**

**IN THE MATTER OF:**

1. Indian Spinal Injuries Hospital  
Sector-C, Vasant Kunj  
Opposite Vasant Valley School  
New Delhi-110070

.....Applicant

Versus

1. Union of India  
Through the Secretary  
Ministry of Civil Aviation,  
Rajiv Gandhi Bhavan,  
Safdarjung Airport,  
New Delhi-110003
2. The Secretary  
Ministry of Environment and Forests,  
Paryavaran Bhavan, CGO Complex  
Lodhi Road,  
New Delhi-110003

3. The Director General of Civil Aviation  
Opp. Safdarjung Airport,  
Aurbindo Marg,  
New Delhi-110003
4. The Chairman  
Central Pollution Control Board  
Parivesh Bhawan  
CBD-cum-Office Complex  
East Arjun Nagar  
Delhi-110032
5. The Chief Operating Officer  
Delhi International Airport Ltd.,  
Udaan Bhawan,  
Terminal 1 B, IGI Airport  
New Delhi – 110037

.....Respondents

AND

**ORIGINAL APPLICATION NO. 90 OF 2014  
(M.A. No. 613 OF 2014)**

**IN THE MATTER OF:**

1. Neelam Sanjiv  
D-3/3016, Vasant Kunj  
New Delhi-110070

.....Applicant

Versus

1. The Directorate General of Civil Aviation  
Opp. Safdarjung Airport,  
Aurbindo Marg,  
New Delhi-110003
2. Airports Authority of India  
Rajiv Gandhi Bhawan  
Safdarjung Airport  
New Delhi-110003
3. Delhi International Airport Ltd.,  
New Udaan Bhawan,  
Opp. Terminal 3, IGI Airport  
New Delhi – 110037
4. Ministry of Environment and Forests,  
Paryavaran Bhavan, CGO Complex  
Lodhi Road,  
New Delhi-110003

.....Respondents

**COUNSEL FOR APPELLANT/APPLICANTS:**

Mr. Sanjiv Anand, Ms. Madhumita Singh, Mr. Anil Sood, Mr. Akshay Kapoor, Advocates  
 Mr. Balendu Shekhar, Advocate  
 Mr. Sanjiv Dagar, Advocate

**COUNSEL FOR RESPONDENTS:**

Ms. Panchajanya Batra Singh, Advocate and Ms. Aanya Shrotriya, Advocate for MoEF  
 Ms. Anjana Gosain, Ms. Shalini Nair Advocates.  
 Mr. Sanjeev Ralli, Advocate with Mr. Dinesh Jindal, LO for DPCC  
 Mr. Ashwani Kumar, Sr. Advocate with Mr. Chaitanya Puri, Advocate  
 Mr. Abhishek Sharma, Advocates.  
 Mr. Raj Kumar, Advocate with Mr. Bhupender Kumar, L.A.  
 Mr. B.V. Niren, Mr. Prasouk Jain, Mr. Vinyak Gupta Advocate  
 Ms. Alpana Podder, Advocate for CPCB  
 Mr. Priyadarsh Gopal, Advocate for AAI  
 Mr. A. W. Siddin, Advocate for DGCA  
 Mr. A. K. Prasad, Advocate  
 Mr. Rameeza Hakeem, Advocate  
 Mr. Alpha Phiris Dayal, Advocate  
 Mr. Atul Nanda, Sr. Advocate  
 Mr. Aayush Juneja & Mr. Anuj Aggrawal, Advocates  
 Mr. Yash Srivastava, Advocate  
 Mr. Rajat Barar, Advocate  
 Mr. Divya Prakash Pande, Advocate  
 Mr. Atul Chandra, Chief Flight Operations Instructor

**JUDGMENT/ORDER****PRESENT:****HON'BLE MR. JUSTICE SWATANTER KUMAR (CHAIRPERSON)****HON'BLE DR. JUSTICE JAWAD RAHIM (JUDICIAL MEMBER)****HON'BLE MR. BIKRAM SINGH SAJWAN (EXPERT MEMBER)**

Reserved on: 20<sup>th</sup> November, 2017  
 Pronounced on: 24<sup>th</sup> November, 2017

1. Whether the judgment is allowed to be published on the net?
2. Whether the judgment is allowed to be published in the NGT Reporter?

**JUSTICE SWATANTER KUMAR (CHAIRPERSON)**

By this common order, we shall dispose of the above four cases mentioned in the Appeal No. 60 of 2013, as common questions of law

based on somewhat similar facts arise for consideration of the Tribunal in these cases. The Appellant/Applicant in all these appeal/applications had approached the High Court of Delhi at New Delhi by invoking Article 226 of the Constitution of India in the year 2009 and all these writ petitions came to be transferred to this Tribunal *vide* order dated 16<sup>th</sup> April, 2013 passed by the High Court of Delhi at New Delhi in terms of the judgement of the Hon'ble Supreme Court of India in the case of *Bhopal Gas Peedith Mahila Udyog Sangathan & Ors. vs. Union of India & Ors.* dated 9<sup>th</sup> August, 2012. Upon transfer, the writ petitions were renumbered as appeal/applications and were being heard together. We may refer to the facts giving rise to the appeal/applications before the Tribunal very concisely.

2. Writ Petition No. 9337 of 2009 was filed by the Society for Protection of Culture, Heritage, Environment, Traditions & Promotions of National Awareness, a Society registered under the Societies Act, 1960. In this writ petition, the Petitioner had prayed for quashing of the order dated 17<sup>th</sup> January, 2007 *by* which Respondent No. 1 had granted Environmental Clearance for construction of 3<sup>rd</sup> run way 11/29 at IGI Airport, New Delhi. Further, it was prayed that a prohibitory order be issued against the respondents to stop flying the aircrafts over the areas of Vasant Kunj, Masudpur and Rangpuri with immediate effect. The aircrafts should also be prohibited from landing at run way 11/29. The principal ground taken in the writ petition was that, within 100 meters of run way, there were schools, hospitals and residential colonies. The takeoff and landing of aircrafts at the said

run way and airport was causing serious noise pollution and was disturbing the life and sleep of the people around that area. This was in violation of the Noise Pollution (Regulation and Control) Rules, 2000. The noise level reached from 74 - 84 dBA in the areas of Vasant Kunj and around. The Environmental Clearance granted was without application of mind and was violative of the settled principles of environmental jurisprudence. The writ petition was contested by the official respondents including the Director General of Civil Aviation, CPCB and Airport Authority of India. They denied the allegations made in the writ petition and prayed that the writ petition be dismissed.

3. Though, the Appellant/Applicants had prayed for interim orders which were not granted by the High Court. However, as noticed in the order dated 27<sup>th</sup> May, 2009, it was stated before the High Court by Respondent Nos. 1 and 4 that they would suggest some measures to reduce the noise pollution on account of 3<sup>rd</sup> run way at the International Airport. The matter remained pending before High Court until passing of order dated 16<sup>th</sup> April, 2013 by which the writ petition was transferred to the Tribunal and was registered as Appeal No. 60 of 2013 (T<sub>HC</sub>).

4. Writ Petition No. 13675 of 2009 was filed by Bijwasan Gram Vikas Samiti. It was stated in this writ petition that serious noise pollution was being caused by the aircrafts at the international airport, New Delhi. The conditions of the Environmental Clearance granted to Respondent No. 5 had been violated and not complied with.

It was further stated that the several mitigative measures to reduce the impact of noise pollution should have been taken by the respondents including orientation of the run way, proper scheduling of the aircrafts and use of acoustic noise absorbing materials and green cover development. The petitioner had prayed that the respondents should be directed to take necessary measures to mitigate the noise pollution caused by the aircrafts in run way 11/29 of the IGI Airport. This writ petition was transferred to the Tribunal *vide* order dated 16<sup>th</sup> April, 2013 and came to be registered as Original Application No. 115 of 2013 (THC) before the Tribunal.

5. Writ Petition No. 12719 of 2009 was filed by Indian Spinal Injuries Hospital, Vasant Kunj referring to the issue of noise pollution causing disturbance to the patients of hospitals, as it fell on the flight path of the aircrafts landing on run way 11/29, raising other similar grounds as well. It is specifically averred that reports of World Health Organization suggest that thousands of people around the world may be dying prematurely or succumbing to disease through the ill-effects of chronic noise exposure. According to the reports, investigations have revealed that the blood vessels, which feed the brain, dilate due to noise thereby causing headache. Besides these, other ill-effects of noise on the human body are in the form of galvanic skin response, ulcer formation, changes in intestinal motility, etc. According to the petitioner, the Vasant Kunj area is required to be protected as silence zone. Huge noise is generated by trafficking of the aircrafts to the domestic terminal and it is going to cause huge inconveniences. There are serious and critical patients in the hospitals and constant noise

pollution causes serious health issues and hampers patient care in the hospital. On this premise, the Petitioner prayed in the writ petition that the order granting Environmental Clearance dated 17<sup>th</sup> January, 2007 be quashed. The aircrafts should stop flying over the densely populated areas of Vasant Kunj, Masudpur and Rangpuri and also the petitioner's hospital. No aircraft should be permitted to land on run way 11/29. *Vide* order dated 16<sup>th</sup> April, 2013 the said writ petition was transferred to the Tribunal and came to be registered as Appeal No. 117 of 2013 (THC).

6. Neelam Sanjiv, a resident of Vasant Kunj, filed an application under Section 14 and 15 of the National Green Tribunal Act, 2010 (for short, "Act of 2010") before the Tribunal directly and it was registered as Original Application No. 90 of 2014. Invoking the Precautionary Principle and Polluter Pays Principle, the Applicant prayed for night curfew, restricting flight operations, framing noise abatement procedure plan to be followed at the IGI Airport, stopping aircraft landing on run way 11/29 and providing compensation for mental agony to the residents of Vasant Kunj.

7. Respondents in all these appeal/applications are common and as already noticed they have vehemently contested the same. It is prayed by the respondents that the grounds taken by the applicants are without any basis and the appeal/applications need to be rejected.

8. In view of the approach that we propose to adopt while dealing with these cases, it is not necessary for us to notice the rival contentions raised before the Tribunal in a greater detail. It is

pertinent to note that the applications were argued on different occasions and finally the parties commonly conceded before the Tribunal that the controversies between parties would fall in a narrow compass, namely:

- (a) Taking mitigation measures for controlling noise pollution at the IGI Airport, New Delhi;
- (b) Expert Body be appointed to suggest erection of appropriate barriers for control of noise pollution and for taking other remedial measures;
- (c) The aircrafts should be restricted from applying reverse thrust upon landing as it results the maximum noise level;
- (d) There should be night curfew on flight operations atleast between 10:00 pm to 05:00 am and/or the same should be regulated.

Within the ambit and scope of the above limited issues, the matter was heard by the Tribunal on different dates. It is pertinent to note that the present cases were not approached by the learned Counsel appearing for either parties as adversarial litigation, submissions were made objectively in order to provide constructive resolution to the issues raised before the Tribunal. The order of Delhi High Court dated 16<sup>th</sup> April, 2013 was assailed before the Hon'ble Supreme Court of India. However, the Hon'ble Supreme Court of India declining to interfere in the order of High Court of Delhi directed the Tribunal to dispose of the matter within six months and also directed that the parties to the proceeding would not claim any interim order before the Tribunal. Accordingly, hearing of the cases were expedited.

9. Amongst other directions, the Tribunal had also directed IIT Delhi to submit a detailed report before the Tribunal in relation to construction of sound barriers around the boundary of the airport and other allied subjects. The Ministry of Environment, Forest & Climate Change (for short, "MoEF&CC) had also filed a report before the Tribunal in furtherance to the order dated 27<sup>th</sup> January, 2016. Ministry of Civil Aviation had also filed documents in relation to mitigating factors to reduce the noise pollution in the area of domestic airport and the international airport. A statement was also filed showing the steps taken for mitigation of the noise levels while taking into consideration the comments submitted by the Appellant/Applicants. *Vide* order dated 16<sup>th</sup> September, 2016, the Tribunal had directed the matter to be heard in relation to need and extent of mitigation measures that should be taken by the stakeholders along with suggestions made by the Appellant/Applicants and arguments should be confined to those aspects. Delhi International Airport received recommendations from IIT and took liberty from the Tribunal to file the same with affidavit *vide* order dated 29<sup>th</sup> March, 2017. However, further time was prayed for completion of the report by IIT Delhi which was granted *vide* order dated 12<sup>th</sup> May, 2017 and IIT Delhi was directed to expedite the report in furtherance to the scope of the work which it was given specifically to do. Further extension was granted *vide* order dated 17<sup>th</sup> July, 2017. The interim report was filed before the Tribunal on 6<sup>th</sup> September, 2017 and final report was placed on record on 21<sup>st</sup> September, 2017. Thereafter, the matter was

heard on merit within the ambit and scope, as recorded in the orders of the Tribunal.

10. As already noticed, the fundamental issue which required to be adjudicated by the Tribunal was with regard to mitigation measures or steps that were required to be taken by the official respondents as well as other stakeholders. IIT report was also subject matter of the deliberation and consideration before the Tribunal. From the reports filed by the MoEF&CC and Director General of Civil Aviation, it was evident that considerable and effective mitigation measures have been taken to reduce the noise level in that area.

11. The provision of Section 20 of the Act of 2010, requires the Tribunal to apply Principle of Sustainable Development, Precautionary Principle and Polluter Pays Principle, where the cases involving substantial environmental issues before the Tribunal are to be decided.

12. Keeping in view the facts and circumstances of the present case, the Tribunal has to apply Principle of Sustainable Development and Precautionary Principle. The Precautionary Principle mandates all the stakeholders to take such precautions as would not only prevent any further increase in the noise level but would also reduce the noise pollution in that area. It is nobody's case before the Tribunal that the noise levels in that area are strictly within the prescribed levels. The Principle of Sustainable Development would require a balance to be struck between the environmental protection in relation to noise pollution and other substantive State Policies founded on socio-

economic principles, public good and necessity. In the present day, the globe has turned into one big family and the distances from one country to another, from one State to another, from one city to another are covered in short durations, thus, making it necessary that the effective transportation means are provided not only to the people of India but also to the entire global community. Providing an effective, efficient and resourceful airport is also the obligation of State, while equally it is the obligation of the State to ensure compliance to the prescribed noise levels. The Tribunal has to strike a balance between the two and permit the State to carry on an activity which is in the interest of the country and the public at large and is not entirely derogatory to the interest of environment. The rights of people are subject to the restrictions which have to be reasonable. To say that airport should be shut for the entire night would neither be in consonance with the Principle of Sustainable Development nor would it be an option open to the State in the peculiar circumstances prevailing internationally today. Rather every effort should be made by the State and other stakeholders and they must take all mitigation measures to ensure that the noise levels are brought to the possible minimum extent. It is on record before us that nearly 80 to 82 flights takeoff or land every hour at the Delhi domestic/international airport, this shows the extent of air traffic that the airport is handling and to put a prohibition or a night curfew would not be rational and would not be in line with the doctrine of Sustainable Development. It is not established before us at this stage that the stakeholders particularly

the official respondents are not taking adequate steps to mitigate the noise levels at the airport and its surrounding areas.

13. The authorities have agreed to implement the report and recommendations of IIT Delhi in all respects. It was contended by the Appellant/Applicants that the noise barriers being constructed at the boundary of the airport should be of greater height and not the height that has been suggested. This is a matter which should be examined by the Expert Body keeping in view the technical and security aspects. The respondents have not raised any objections and have assured the Tribunal that they would consider the suggestions objectively and if necessary take opinion of the Expert Body including IIT Delhi and take appropriate steps in this regard.

14. In relation to applying of reverse thrust, Director General of Civil Aviation has produced its senior most technical officer before the Tribunal, who fairly stated that application of reverse thrust alongwith brakes after landing is a judgemental decision that has to be made by the Pilot keeping in view various conditions like weather, length of the run way, passenger load of the aircraft and other attendant circumstances. According to him, depending on the length of run way, it would be possible to permit landing without applying reverse thrust, but there cannot be absolute direction in that behalf and it could at best be an advisory issued by the authority. Thus, even in this behalf, the stand of the respondents appears to us to be reasonable and not arbitrary. This would help to some extent in reducing the noise level.

All these issues and also the submission/suggestions of all the parties before the Tribunal were examined.

15. Upon due consideration of the matters in issue, we pass the following order and directions:

1. We decline the prayer of the Appellant/Applicants in all these cases for imposition of night curfew on landing or taking off of aircrafts at the airport and more particularly on run way no. 11/29.
2. We also decline the prayers of the Appellant/Applicants for issuances of directions to the Central Government and other official respondents for providing sound proofing of the houses in the colonies, falling on the flight pathway of aircrafts while landing and taking off.
3. We direct all the official respondents to take all mitigating measures for reducing noise pollution in terms of the report submitted by MoEF and as even proposed by these very respondents themselves, expeditiously.
4. The official respondents shall act in furtherance to the report of IIT in relation to construction of sound barriers, which report of IIT is accepted by the Tribunal.

However, if any, variations are suggested and the official respondents consider it proper to carry out such variations on the ground of safety, security and height of the sound barrier walls, the same may be implemented after discussion with the

team of IIT. The sound barriers should be constructed at the earliest and in accordance with report.

5. The official respondents shall ensure providing of a green belt around the boundary wall of the airport, while keeping the safety and security both in mind. The plantations shall be of the species which would only grow to the permissible height or would be maintained at the permissible height only.
6. The official respondents may issue an advisory to all the airlines whose aircrafts land at the runway of the IGI and domestic Airport, New Delhi to ensure 'judgment based' use of reverse thrust keeping in view weather, length of run way, wind, and other attendant circumstances to reduce the noise level particularly at the time of landing of aircrafts.
7. All the coaches/buses and other vehicles plying at the airport should be CNG and must comply with the prescribed emission standards. Non-CNG buses/coaches or other vehicles plying at the airport, should be converted to CNG within six months from today.
16. While leaving the parties to bear their own costs, we dispose of all these appeal/applications with the above terms.
17. In view of the order in the main appeal/applications, all miscellaneous applications also stand disposed of as having become infructuous.

**Swatanter Kumar  
Chairperson**

**Dr. Jawad Rahim**  
**Judicial Member**

**Bikram Singh Sajwan**  
**Expert Member**

New Delhi  
24<sup>th</sup> November, 2017



NGT

**Comparison between HAL Airport, Bengaluru and Jakkur airfield**

| <b>Infrastructure</b>                 | <b>HAL Airport, Bengaluru</b>   | <b>Jakkur Airfield</b>  |
|---------------------------------------|---|---|
| Runway Dimension                      | 10852 Ft x 200 Ft   | 3000 Ft x 100Ft (Length cannot be extended due to non-availability of land)   |
| Runway Strength                       | Suitable for heavy aircraft operations like Antonov AN124 (4,05,000 Kg), Boeing B747 (3,33,400 Kg)                                    | Only for light aircraft operations (all up weight less than 5700Kg)   |
| Type of aircraft operations permitted | All aircraft using Visual Flight Rules – VFR and Instrument Flight Rules - IFR  | Only Visual Flight Rules (Only Good Weather conditions)   |
| Airspace                              | Exclusive Test flying area extending upto 100NM with unlimited vertical limits to cater for unrestricted fighter aircraft operations. | Within Yelahanka Airspace from Ground to 700ft above ground level only. The flying is restricted only to south of airfield due to Yelahanka AFS to the north. |
| Radio Navigational and landing aids   | Navigational and landing aids like VOR, DME, ILS, Radars  | No Radio Navigation aid is available  |
| Ground Lighting Facilities (GLF)      | Runway Edge lights, Taxiway Edge lights, Simple Approach Lighting System, Precision Approach Path Indicator (PAPI)                    | No GLF available.   |
| Facilities for military aircraft      | Arrester barrier and Hook Cable available   | No such facilities available  |
| Fire Fighting Equipment               | Three Crash Fire Tenders with trained manpower available 24 x 365 days  | Required Firefighting equipment and trained manpower are not available  |
| Hours of operations                   | 24 Hrs  | Dawn to dusk only   |

BEFORE THE HON'BLE NATIONAL  
GREEN TRIBUNAL, SOUTHERN  
ZONE, CHENNAI

OA No. 66 of 2023 (SZ)

IN THE MATTER OF:

P. Bala Murali Krishna,

....Applicant

**Vs.**

Hindustan Aeronautics Limited,  
& Ors

....Respondents

**REPLY STATEMENT FILED BY THE**

**1<sup>st</sup> RESPONDENT**

M/S. GUPTA & RAVI  
COUNSEL FOR 1<sup>st</sup> RESPONDENT  
S. INDUMATHI RAVI 1233/1994  
R. SANJEEV : 2621/2019  
R. SHRAVAN: 4183/2022  
Mobile:9841047971  
mail: advocates@guptaravi.in