



AIRPORTS AUTHORITY OF INDIA

Department of Aerodrome Safeguarding

Rajiv Gandhi Bhawan, New Delhi-110003

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AERODROME SAFEGUARDING CIRCULAR (ADSAC) 2 OF 2019

Subject: Procedure for Control and Monitoring of the Obstacles at AAI Airports

1. Introduction

1.1. The effective utilization of an aerodrome may be considerably influenced by man-made activities and natural growths (e.g. trees) within the aerodrome and its vicinity. These may result in:

- 1.1.1. Limitations on the distances available for take-off and landing operations;
- 1.1.2. The range of meteorological conditions in which take-off and landing operations can be undertaken;
- 1.1.3. A reduction in the payload of some aircraft types; or
- 1.1.4. Any of the combinations above.

1.2. Rules and procedures for the issuance of NOC for height clearance have been notified by Govt. of India in GSR 751E issued on 30th September 2015. AAI is responsible for issuance of NOC for height clearance in respect of the civil licensed aerodromes (public as well as private use). GSR 751 (E), NOC issuance guidelines, FAQ, Colour Coded Zoning Maps (CCZM) etc. may be accessed at nocas2.aai.aero/nocas or through AAI website NOCAS link.

1.3. Control & Monitoring of obstacles is the responsibility of the concerned Airport Operator through the Airport Director or the Chief Executive Officer as the case may be. This circular reiterate/ laid-down the procedures to be followed for effective obstacle management at the airports.



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2. Purpose

2.1. The purpose of this Aerodrome Safeguarding Circular (ADSAC) is to promulgate the detailed procedures to be followed by the Airport Director/ CEO of an airport and by the other officers of civil airports for the Control and Monitoring of the Obstacles at the airport and its vicinity for the effective aerodrome safeguarding as envisaged in various National and international regulations including the GSR 751E.

2.2. This ADSAC explains the process of obstacle control viz

- 2.2.1. Issuance of NOC for height clearance,
- 2.2.2. Conducting of obstacle surveys,
- 2.2.3. Marking and lighting of obstacles,
- 2.2.4. Removal or reducing the height of obstacles and
- 2.2.5. Reporting of obstacles to the appropriate authorities.

2.3. By implementing the procedures, the aerodrome operator will be able to establish an effective obstacle control and monitoring process, and keep the aerodrome safe for aircraft operations.

3. Scope / Applicability

3.1. This ADSAC applies to all airports under operational and management control of AAI and the other public and private use licenced civil airports for which AAI is responsible for issuance of NOC for height clearance under GSR751(E) or any other notification issued by GOI for the purpose under the Aircraft Act 1934 Section 9A.

4. Cancellation

4.1. Nil



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5. Effective date

5.1. This ADSAC will be effective from the date of its issue.

6. Procedure for issuance of NOC for height clearance and role of Airport Management.

6.1. No Objection Certificate Application System (NOCAS)

6.1.1. The online “No Objection Certificate Application System (NOCAS)” version 2.0 has been implemented and is available at nocas2.aai.aero/nocas. Nocas2 can also be accessed through AAI website www.aai.aero.

6.1.2. The system permits

- 6.1.2.1. Online submission of NOC applications for height clearances
- 6.1.2.2. the automated calculations of the PTE from AGA, CNS and PANS-OPS criteria
- 6.1.2.3. Online NOC Committee
- 6.1.2.4. Issuance of online NOC
- 6.1.2.5. Applicant is able to track the application status through his dashboard, system generated SMS and email.
- 6.1.2.6. Auto settle through CCZM

6.2. NOC Committee (NOCC)

6.2.1. NOCCs are constituted at all the 5 Regional and 4 station level NOC Offices and headed by Designated Officer. NOCC comprises of one expert from AGA, CNS and PANS-OPS who are responsible for the height calculation for their respective role. Also the airport representative, duly authorized by the Airport Director or CEO is the



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member of NOCC. Normally the airport representative will participate in the NOCC online at NOCAS portal through his/her login credential.

6.2.2. Functioning of NOC Committee at the Regional and Station Level NOC offices can be categorized as online NOCC and offline NOCC.

6.2.2.1. **Online NOCC:** Members, if satisfied with the respective height calculation or parameters under their responsibility, select agree button. If all the members of NOCC agree, the application is sent to the Designated Officer's dashboard for issue of NOC. System generated NOC letter, which is non editable, is issued by DO or his representative (preferably with digital signature).

6.2.2.2. **Offline NOCC:** However, if a member (AGA, CNS, PANS-OPS) disagrees to the system generated height calculations, or the Airport Operator disagrees on account of evaluation criteria given at 6.2.4, he/she must enter the specific reason for disagreement in the comment box. Such cases, where one or more members disagree, are forwarded to offline NOCC for suitable resolution / disposal at DO level after the discussion with the concerned member/s.

6.2.3. The airport operator, who is member of the NOCC, shall ensure that

6.2.3.1. No unauthorized construction takes place on the airport land. Permission letter from the concerned airport operator, if the proposed structure has been planned within the airport premises, needs to be uploaded at NOCAS by the applicant.

6.2.3.2. Approved airport master plan, including the future planned airport developments, is not jeopardized.

6.2.3.3. If considered necessary, physical verification of the site may be carried out, (in the given time frame) to check that the application site data is correct.

6.2.3.4. Aerodrome data of runways, CNS facilities incorporated in NOCAS is correct. The NOCAS data is available at AO dashboard.



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6.2.4. Based on the online NOCC or offline NOCC process as explained above, the NOC applications for height clearances are decided as below:

6.2.4.1. No Objection for the requested top elevation (Above Mean Sea Level) with conditions.

6.2.4.2. No Objection for the restricted top elevation (Above Mean Sea Level) with Conditions.

6.2.4.3. Objection or Rejection intimation with reasons thereof.

7. Site co-ordinate certificate in WGS 84 datum.

7.1. It is mandatory for the applicant to provide the site coordinates in WGS-84 and elevation certificate from a qualified professional or an agency, authorized for the purpose by the concerned Department/Unit/Local Body of the Government, Airport Operator of a Licensed Airport, Authorized Empaneled Surveyors of AAI and Approved/Licensed Surveyors by the ULBs' or by the State Govt. as per the format given in Annexure 1. Resolution up to 10th of the second in format of DD MM SS.s. and position accuracy within 3 meters. Site Elevation Certificates in meters with accuracy within 0.5 Meter or 1/2 meter.

7.2. The agency, providing the certificate, may be called upon by the airport management to provide the survey documents (as listed in Annexure 1) to verify the data. If so required, surveyor is obligated to accompany the airport team to the site and confirm the data acquisition and its accuracy.



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8. Some user friendly NOCAS features

8.1. Automatic Calculations: NOCAS carries out automated calculations for the permissible top elevation based on AGA, CNS and PANS-OPS criteria.

8.2. Map Analysis: AAI users will be able to analyse the proposed construction sites w.r.t. the airports and the various protection surfaces with the help of many GIS tools. The maps are downloaded from ESRI online map service in real-time.

8.3. Check Approximate Top Elevation: This tool will empower the prospective NOC applicant, to check the approximate building top elevation he may expect from the NOC office.

8.4. Auto Settle: On receipt of the online NOC application by NOCAS, the application will be checked for the auto settled criteria including the CCZM and settled if the height requested is below the CCZM level.

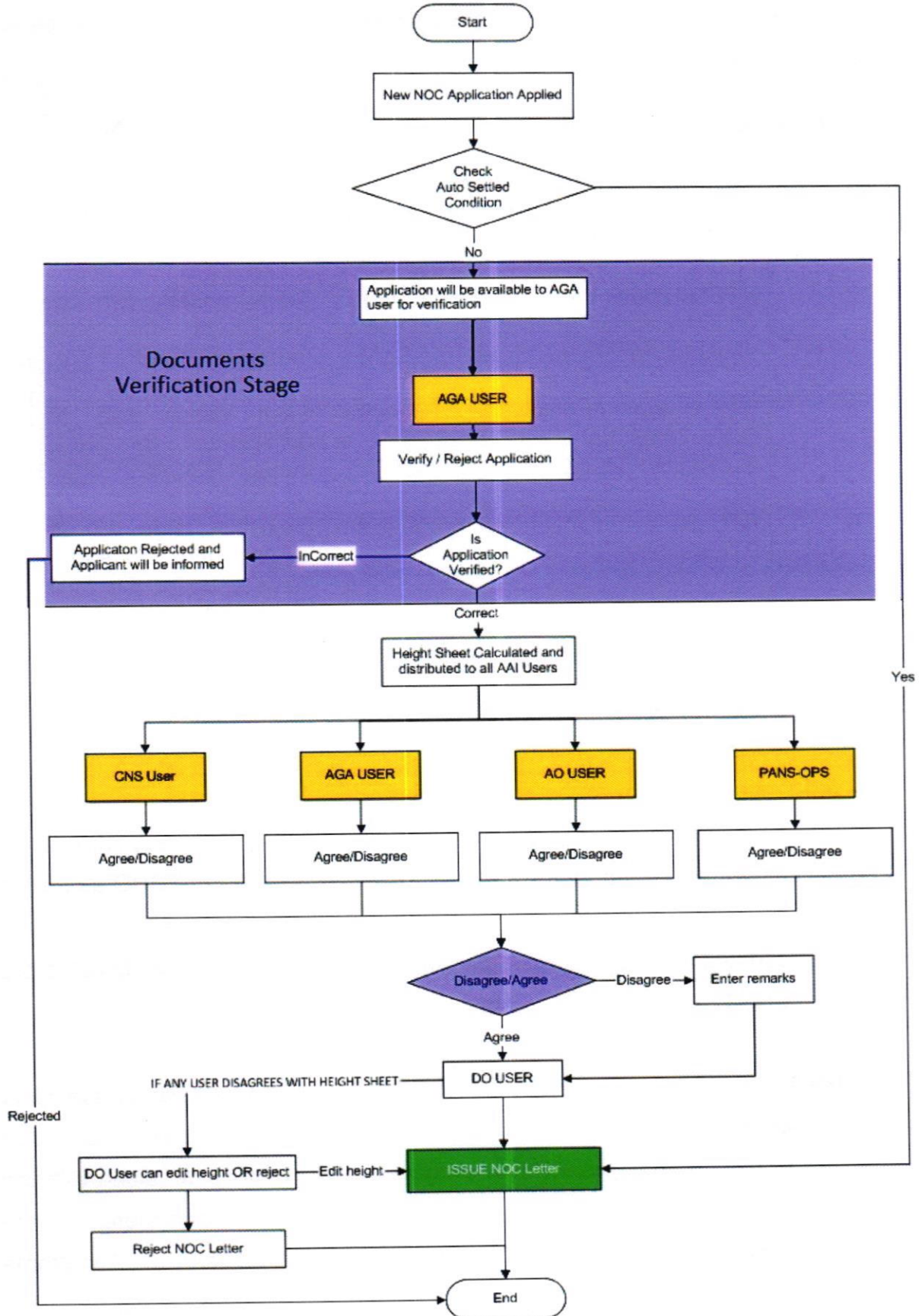
8.5. View issued NOC: All NOC letters from 1st January 2016 are available at NOCAS website in public domain.

8.6. CCZM: CCZM in interactive and pdf form are available at NOCAS in public domain. 78 airports CCZMs have been issued till date.



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8.7. NOCAS Flow Diagram:





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8.8. Procedure to deal with the NOC application wherein the structure, either part of or full, exists at the site:

Option	Requested Top Elevation in relation to CCZM	Processing at AAI
1.	Requested Top Elevation (RTE) is below the as Permissible Top Elevation (PTE) indicated in CCZM.	No NOC from AAI is required
2.	RTE is above the PTE as indicated in CCZM but prior construction is below or equal to the PTE permitted by CCZM.	Such cases can be considered for NOC through NOCAS
3.	RTE is equal or below the PTE as per GSR 751E but prior construction is above the PTE permitted by CCZM.	Such cases can be considered for NOC through NOCAS
4.	RTE and prior construction is above the PTE as per GSR 751E.	Objection letter will be issued and Demolition process under the rules is to be initiated by Airport.

8.9. Integrity and currency of the Aerodrome Data incorporated in NOCAS

8.9.1. Directorate of Aerodrome Planning, CNS-Planning and FPD section in ATM Directorate at AAI CHQ, preferably through their respective nodal officer, appointed for the purpose, shall keep GM (DoAS) CHQ as well as the Designated Officers of concerned RHQ/Station Level DoAS offices updated about approved Airport Master Plan, installation/ relocation of the CNS facilities and FPD procedures, and the change thereof.

8.9.2. Airport Directors of AAI, CEO/COO of the JVC airports and Developers of Greenfield Airports (In- Principle approved by the Steering Committee in MoCA) shall provide the latest approved master plan, along with the runway co-ordinates and elevation data, and the change thereof, to the concerned Designated Officers of AAI Department of Aerodrome



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Safeguarding (DoAS) office. A copy of the same shall also be provided to GM (DoAS), AAI CHQ for NOCAS data update.

9. **Aerodrome Safeguarding** is a process undertaken by airports to ensure that the development activities, taking place in airport vicinity, do not adversely affect the safety of the aircraft operations. The process involves many steps:

9.1.1. Assessment of height applications by the respective DoAS offices (at CHQ, RHQ and Station Level) and issue of No Objection Certificate if the requested structure elevation is within permissible limit.

9.1.2. Control and monitoring of obstacles by the **Aerodrome Safeguarding Team**.

9.1.2.1. To ensure that height of the structures and their location is per the NOC issued by the designated officers.

9.1.2.2. Develop appropriate mechanism with necessary trained manpower and survey equipment so as to verify site co-ordinates and elevations, top elevation of the structures as and when required.

9.1.2.3. Periodic and event survey of the airport vicinity to identify the development or activities which may affect the safety of aircraft operations.

9.1.2.4. All efforts be made in co-ordination with Local State Bodies for prevention or removal of obstacles prior to taking the matter with DGCA.

9.1.2.5. Co-ordination with DGCA for the demolition of obstacles as per The Aircraft (Demolition of obstructions caused by Buildings and Trees etc.) Rules, 1994.

9.1.2.6. Record of previous penetration of OLS, non-compliances, documentation and follow up including the promulgation of information on obstacles

9.1.2.7. Marking and lighting of Obstacles other than natural growth



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10. Formation of Aerodrome Safeguarding (Control and Monitoring) Team at the airport:

- 10.1. Aerodrome Safeguarding Team lead by the Airport director shall be constituted at each airport and will have following members:
- a. An officer from the Airport Operation
 - b. An officer from the ATM
 - c. An officer from the CNS
 - d. An officer from the Land/Civil/Electrical section
 - e. An officer from the Local Body/ Municipal Corporation (optional)
- 10.2. At Chennai and Kolkata airports, where ATM and CNS officers may not be posted with airport Director, the officers from land management, Civil and electrical may be the members.
- 10.3. Aerodrome safeguarding Team's level of activity will depend upon the nature of development/ construction in the airport vicinity. The team shall meet at least once in a month to take stock of the NOCs issued in the airport vicinity or the unauthorized construction taking place within radius not exceeding 20Kms. from the ARP for VFR airports or not exceeding 56 KM for the IFR airports. NOC letter issued in respect of the airports may be downloaded from NOCAS home page "View Issued NOC"
- 10.4. The Approach Surface and Transition surfaces are more critical than other areas such as IHS and Conical surface as obstacles in these surfaces may impact the usable runway length at the airport.
- 10.5. As per the terms of Aerodrome License issued by DGCA, Airport Director is responsible for the control of obstacles. The procedures formulated at the airport as per this ADSAC should be included in the Aerodrome manual and updated regularly.



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11. Co-ordination with Local Bodies:

- 11.1. While carrying out the site visit of an under construction site, prior co-ordination may be established with Local Body/ Town Planning Authorities and the owner of the site.
- 11.2. It should be kept in mind that prevention of an obstacle is much easier process than demolition or removal of a structure, penetrating the surfaces, as not only it may result in financial or prestige loss to the builders but also create mental stress to property/home buyers.
- 11.3. Airport may take initiative to educate the local public, builders and authorities about the importance of regulating the built environment in airport vicinity for the flight safety, rules and regulations issued by Govt. of India for aerodrome safeguarding and the NOC issuance procedures.
- 11.4. Colour Coded Zoning maps have been issued for the 78 airports and CCZM of other airports will be issued in due course. Airport Director shall provide the CCZM to the Local Planning Authority. CCZM grids may be superimposed on the city planning maps by the concerned Local Planning Authority for its effective implementation.

12. Marking and Lighting of the obstacles

- 12.1. The aerodrome operator should make every effort to have the obstacles removed or reduced in height so that they no longer pose danger to aircraft operations.
- 12.2. Where it is impractical to remove an obstacle or to have an obstacle reduced in height, it should be appropriately marked and / or lit so as to be clearly visible to pilots in all weather and visibility condition.



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- 12.3. It should be noted that the marking and lighting of an obstacle is intended to reduce hazards to aircraft by indicating their presence. It does not necessarily reduce operating limitations which may be imposed by the obstacle.
- 12.4. The airport operator should inspect all obstacle lights and markings within the aerodrome and its vicinity, and take necessary steps to have unserviceable lights repaired or replaced, and faded markings painted or replaced.

13. Violation of NOC for height clearance and initiation of the Demolition process

- 13.1. If aerodrome -In charge/APD/CEO has become aware of an obstacle through the periodical or the event survey or he suspect that a structure, already constructed or under construction, may become an obstacle, he shall
- 13.1.1. Correlate the obstacle or the potential obstacle with the NOCs issued for the airport.
- 13.1.2. Co-ordinate with the local body and the owner of the structure to get the details in terms of its co-ordinate, site elevation, NOC obtained from AAI (from SACFA in case of telecom masts) and top elevation of the structure.
- 13.1.3. Evaluate if the owner has conformed to the data provided in NOC. In case of violation, send the data to the concerned DO for the review.
- 13.1.4. Issue a show cause notice (to be replied within 45 days) to the owner of the structure indicating the nature of violation and asking as to why the demolition action is not to be initiated under the Aircraft (Demolition of Obstructions caused by Buildings and Trees etc.) Rules, 1994. Also serve a copy of Ministry of Civil Aviation notification GSR 751(E) to the owner of the building, tree(s) etc. to reduce the height of the building or prune the tree(s) so as to bring them within the permissible limit. Copy of the same may also be submitted to the DGCA, Local body/ District Collector. In case of AAI airports, a copy shall be sent to the Executive Director (Ops), AAI CHQ.



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13.1.5. In case the owner of the building, tree(s) etc. fails to comply with the provisions of GSR 751(E), the Airport Director of AAI airports shall request DGCA, through the Directorate of Operations, AAI CHQ, to issue demolition order under rule 4 and rule 6 of the Aircraft (Demolition of Obstructions caused by Buildings and Trees etc.) Rules, 1994. Directorate of Operations at AAI CHQ upon receipt of the request from the Airport Director will coordinate with DGCA and seek orders as per the Demolition rules to facilitate Airport Management.

14. **Validity:** This ADSAC will remain valid till it is amended or withdrawn or incorporated in the Aerodrome Safeguarding manual.

15. **Document Control and feedback:** This ADSAC has been issued by the office of ED (ATM-DoAS) with the approval of Directorate of Operations, AAI. Any feedback, suggestion or the error in this document may be brought into the notice of GM (DoAS) at AAI CHQ at gmdoaschq@aai.aero.

(J.P. Alex)
Executive Director (ATM-DoAS)

Dated: 18th Oct., 2019.

Distribution:

1. All REDs/All APDs of AAI.
2. Chief Executive Officers of all Joint Venture Airports.
3. In-Charge of all licensed Private and State Govt. Airports including RCS Airports.
4. AAI website/nocas2.aai.aero/nocas



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Annexure 1

Format of Site Elevation and Site Coordinates Certificate (To be submitted on Survey agency Letter Head)

Dated: ___/___/___

Name of the licensed surveyor: _____

Address _____

Email id: _____ Mobile number: _____

License number _____ License validity _____

Scope of License _____

License issuing authority _____

I hereby certify that I have carried out the site survey as per the following details and the results are shown in (A) and (B) below:

Site / plot No. _____

(as per the local bodies map)

Site address: _____

Owner/Lessee of the Plot /Site _____

(A) Site Coordinates

Corner No.	Latitude (DD MM SS.s)	Longitude (DD MM SS.s)	Site Elevation (AMSL) in meters



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(B) Highest Site Elevation of the Plot: _____

(C). Further it is certified that:

1. I/we am /are trained and equipped to issue this certificate for site elevation and site coordinates.
2. The site elevation and site coordinates data are correct to best of my knowledge and belief and are within permissible limits of accuracy of 50 cm in vertical and 03 meters in lateral.
3. I have used the following equipment for survey
 - (a) DGPS conforming to accuracy levels defined in 2 above along with validity of calibration certificate.
 - (b) Total station conforming to accuracy levels defined in 2 above along with validity of calibration certificate.

(D). Undertaking

1. I indemnify Airports Authority of India and the concerned airport operator against all damages arising out of errors in data furnished above by me in addition to the owner's responsibility in this regard. I may further be blacklisted by AAI in case of wrong data.
2. Within a period of three months from the date of filing of NOC application, I shall submit the following documents to the Airport Director of the concerned airport, if so required by AAI.
 - (a) License certificate of surveyor.
 - (b) Calibration certificate of the survey equipment.
 - (c) Photograph of the surveyor at site and showing the neighboring land area.
 - (d) Site plotted on Google Earth map.

(Name and Signature of the authorized Surveyor/Licensee)