CREDAI - MCHI

Ref. No. MCHI/PRES/18-19/032 **October 16, 2018**

To,
Dr. Guruprasad Mohapatra
Chairman
Airport Authority of India
Rajiv Gandhi Bhawan
Safdarjung Airport
New Delhi – 110003

Sub: Interpretation of OLS Allowable Infringement Circular dated 26/03/2015

Ref: Our earlier letter dated 13/07/2018 (Copy attached for immediate reference) and MoM dated 07/08/2018

Dear Sir,

As you may be aware, CREDAI-MCHI had sought your kind intervention in doing justice to our Member Developers on conservative interpretation of the OLS allowable infringement Circular dated 26/03/2015, based on which the Height Clearances are calculated, are reviewed. Based on our representation dated 13/07/2018 and meeting held with you on 27/07/2018, you had allowed our interpretation to be presented jointly to the technical team at AAI and DGCA on 07/08/2018 for further consideration and instructions. Thereafter, meeting was held under the DGCA Chairmanship of Mr. D. C. Sharma (Director – Aerodrome Standards) on 07/08/2018 wherein our interpretation was presented to all the participants followed by interpretation of AAI technical team.

After listening to the interpretation of CREDAI and AAI, Mr. D. C. Sharma Director (Aerodrome Standards) stated that the issue will be discussed in-house in DGCA, taking into account the inputs provided in the meeting and DGCA comments will be provided to MoCA.

In this regard, we request you to kindly grant suitable time for a meeting with you to discuss and take this matter further.

Thanking you,

Yours Sincerely,
For CREDAI-MCHI

Nayan A. Shah	**Bandish Ajmera**	**Sanjiv S. Chaudhary** (MRICS)
President	Hon. Secretary	CREDAI-MCHI Secretariat

CC:-
Shri Arun Kumar (I.A.S.)
Addl. Secretary, Ministry of Civil Aviation
Chairman – Appellate Committee, Airports Authority of India
Corporate Headquarters, Rajiv Gandhi Bhawan,
Safdarjung Airport, Block-A,
New Delhi-110 003

CREDAI-MCHI

S. S. Hussain *I.A.S. (Ex)*
Chief Executive Officer

Additional Chief Secretary (Retd.)
Government of Maharashtra

Ref. No. MCHI/CEO/17-18/211 **July 13, 2018**

Sub: Interpretation of OLS AGA Circular dated 26/03/2015

Ref: Meeting with Hon. MoS dated 18/04/2018

My Dear Suresh Chanbey,

The Airports Authority of India has reviewed the Height Clearances granted to 35 cases, reports of which were submitted to the Hon'ble Bombay High Court in the Public Interest Litigation matter No. 86 filed in 2014.

Out of the 35 cases, the Authority has come to a conclusion that the Height Clearances of 21 cases need to be recalculated as there was an error in the calculations. 14 cases needed no revision. We at CREDAI-MCHI are herewith enclosing a copy of the minutes of the meeting of the sub-committee of the Appellate Authority held on 26/04/2018.

As a chamber we do understand that Air Safety cannot be compromised, but at the same time no injustice should be done to our Member Developers on wrong interpretation of the OLS AGA Circular dated 26/03/2015 based on which the Height Clearances are calculated and reviewed. Due to incorrect interpretation, all upcoming areas of Andheri, Jogeshwari, Kalina, Chembur, Powai, Ghatkopar, Kurla, Santacruz, Khar, Bandra, etc. are affected and would get reduced development potential.

All members of CREDAI-MCHI have gone ahead with their projects based on the Height Clearances arrived after the Aeronautical Study was conducted and reports were submitted to the Court. Substantial progress has been made in the Project after availing Bank Loans. We seek your help in ensuring that we are not denied a Height Clearance which we are entitled to as per the correct interpretation of the OLS AGA Circular dated 26/03/2015.

We sought opinion from Technical Consultant **based on the detail analysis following Obstacle Limitation Surfaces design and geometrical configuration specification with respect to Inner Horizontal surface (IHS) and to meet with the Safety assessment study objective of gradual and uniformity as the distance of the object from the Airport Runway End increases,** which is appended for your kind perusal (annexed herewith as **"Exhibit – I"**).

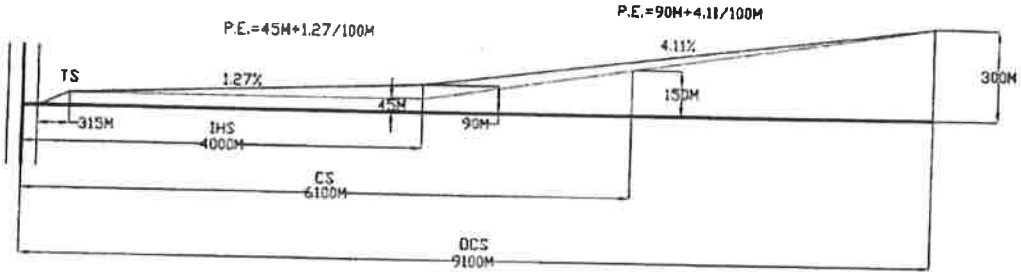
Based on our technical experts analysis, we would like to highlight the following points regarding the AGA OLS limitation circular of March 2015.

Maharashtra Chamber of Housing Industry, Maker Bhavan II, 4th Floor,
18, V. Thackersey Marg, New Marine Lines, Mumbai - 400 020. INDIA
Tel.: (91) 22 4212 1421, Fax : (91) 22 4212 1411 / 407 • Eamil: ceo@mchi.net • Website : www.mchi.net

1. **Within IHS area:**

The allowable AGA infringement limitation is calculated based on permitted permissible progressive height of 90m (at inner Horizontal surface (IHS) - end point from 45m IHS permitted normal height at transitional surface end point i.e., central rectangular area 465m point (150m Runway strip + 315m of transitional surface reaching 45m height at 14.3% slope of transitional surface).

The Arrived Slope is = (4000m - 465m) ÷ (90m – 45m) = 3535m ÷ 45m =0.0127 =1.27%



Hence, to allow permitted height of 90m at 4km i.e., end of Inner Horizontal Surface (IHS), only 465m to be deducted from perpendicular distance in **central Rectangular area** and **Radial distance from both semi-circular areas on approach side.** Any other deduction from radial distance will deviate from the Safety Assessment allowed permissible infringement limit slope calculation.

Otherwise, allowed infringement height of 90m will no longer arrive at the end of IHS in the semicircular area on approach side, which is covering 2/3 of IHS area. (Diagram with example is annexed in "Exhibit – I" for ready reference)

- **Hence, earlier used formula i.e., PE = Aerodrome Elevation + 45 + (1.27 (Distance of nearest runway extremity - 465)/100) for maximum allowable AGA OLS obstacle penetration limit is valid for semicircular approach areas.**
- **However, only central rectangular area portion needs to be reviewed by considering perpendicular (Lateral) distance from respective point along the transitional surface as depicted in safety assessment permissible slope diagram.**

2. **Within Conical and Outer Conical Surface area:**

The allowable AGA infringement limitation is calculated based on permitted permissible progressive height of 300m (at outer Conical surface (OCS) - end point from 90m permitted allowable infringement height at IHS surface end point i.e., central rectangular area + Semi-circular Approach area).

The arrived Slope is = (9100 - 4000m) ÷ (300m - 90m) = 5100m ÷ 210m = 0.0411 = 4.11%

Hence, in view of the above, please allow permitted height of 300m, only 4000m is to be deducted from perpendicular distance in central Rectangular area and Radial distance from both semi-circular areas on approach side. Any other deduction from radial distance will deviate from the Safety Assessment allowed permissible infringement slope calculation.

Kindly consider our submission and do the needful, please.

Best regards

Yours Sincerely

(S. S. Hussain)

To,
Shri Rajiv Nayan Choubey (I.A.S.)
Secretary
Ministry of Civil Aviation
Rajiv Gandhi Bhawan,
Safdarjung Airport,
New Delhi - 110003

CC to,

1. **Dr. Guruprasad Mohapatra (I.A.S.)**
   Chairman
   Airports Authority of India
   Rajiv Gandhi Bhawan,
   Safdarjung Airport,
   New Delhi - 110003

2. **Shri Arun Kumar (I.A.S.)**
   Joint Secretary & Chairman of Appellate Committee
   Ministry of Civil Aviation
   Rajiv Gandhi Bhawan,
   Safdarjung Airport,
   New Delhi - 110003

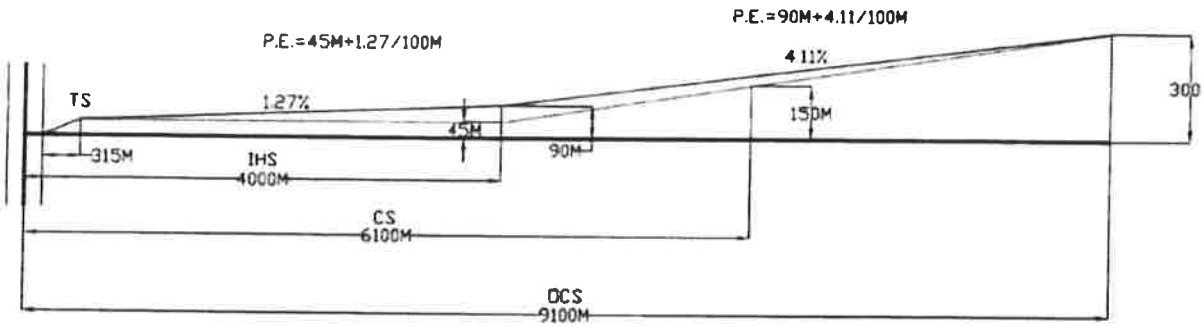
EXHIBIT 1 - NEW AGA ALLOWABLE INFRINGEMENT ALLOWABLE LIMIT CALCULATION ANALYSIS

Safety study – Objective:

"Permitting construction of a large numbers buildings penetrating AGA surfaces through Aeronautical Studies may lead to a cluster of buildings. The Committee is of the opinion that extent of penetration of AGA surfaces may be restricted to ensure certain uniformity and symmetry in permitting such penetration in the overall interest of safety of operations."

Safety study – Recommendations:

1) In IHS higher heights penetrating OLS to be restricted in the slope of 1.27% from end of the Transitional surface upto the maximum height of 90 m above Aerodrome Elevation
2) In continuation thereto in the conical surface including outer conical surface the heights penetrating OLS to be restricted in the slope of 4.11% from the end of the IHS upto the maximum height of 300 m above Aerodrome Elevation



Safety study – Appellate Committee Opinion:

"Permitting construction of a large numbers buildings penetrating AGA surfaces through Aeronautical Studies may lead to a cluster of buildings. The Committee is of the opinion that extent of penetration of AGA surfaces may be restricted to ensure certain uniformity and symmetry in permitting such penetration in the overall interest of safety of operations."

Analysis - Consideration:

1. Within Inner Horizontal Surface (IHS) area:

The allowable AGA infringement limitation is calculated based on permitted permissible progressive height of 90m (at inner Horizontal surface (IHS) - end point from 45m IHS permitted normal height at transitional surface end point i.e., central rectangular area 465m point (150m Runway strip + 315m of transitional surface reaching 45m height at 14.3% slope of transitional surface).

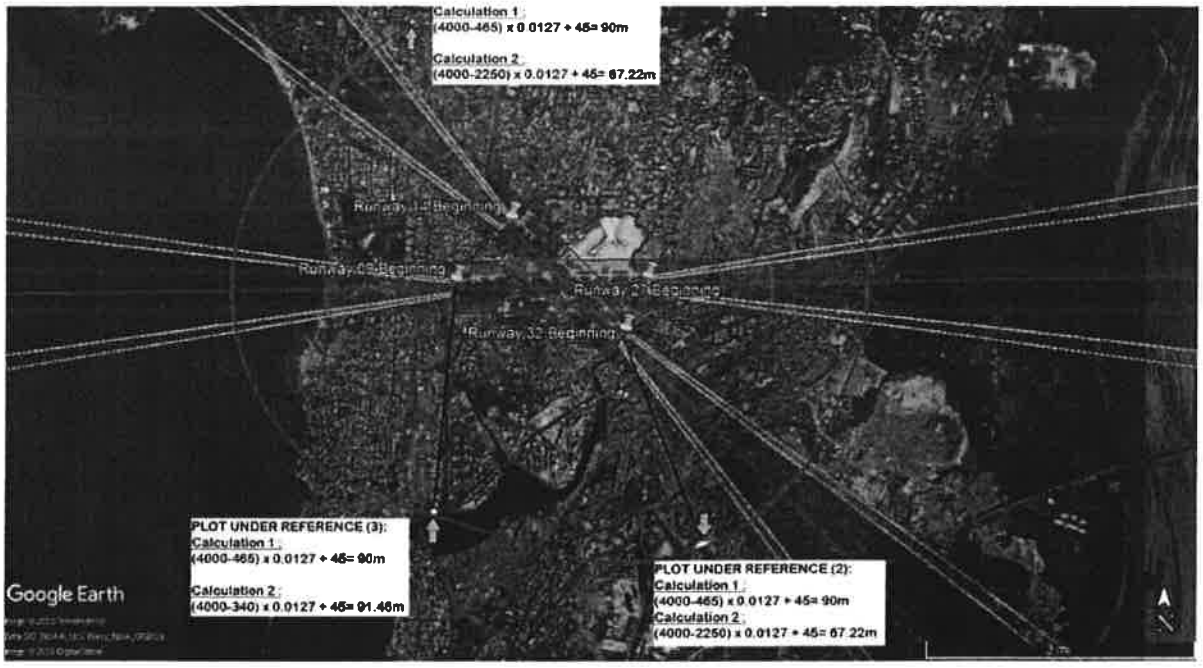
The Arrived Slope is = (4000m - 465m) ÷ (90m – 45m) = 3535m ÷ 45m = 0.0127 = 1.27%

In order to allow permitted height of 90m at 4km i.e., end of Inner Horizontal Surface (IHS), only 465m to be deducted from perpendicular distance in **central Rectangular area** and **Radial distance from both semi-circular areas on approach side. Any other deduction from radial distance will deviate from Safety Assessment allowed permissible infringement limit slope calculation.**

Otherwise, allowed infringement height of 90m will no longer arrived at the end of IHS in the semicircular area on approach side, which is covering 2/3 of IHS area. (Diagram with example shown below for ready reference).

- **Hence, earlier used formula i.e., PE = Aerodrome Elevation + 45 + (1.27 (Distance of nearest runway extremity - 465)/100) for maximum allowable AGA OLS obstacle penetration limit is valid for semicircular approach areas.**

- **However, only central rectangular area portion needs to be reviewed by considering perpendicular (Lateral) distance from respective point along the transitional surface as depicted in the safety assessment permissible slope diagram**



2. **Within Conical and Outer Conical Surface area:**

The allowable AGA infringement limitation is calculated based on permitted permissible progressive height of 300m (at outer Conical surface (OCS) - end point from 90m permitted allowable infringement height at IHS surface end point i.e., central rectangular area + Semi-circular Approach area).

The arrived Slope is = (9100 - 4000m) ÷ (300m - 90m) = 5100m ÷ 210m = 0.0411 = 4.11%

- Hence, to allow permitted height of 300m, only 4000m is to be deducted from perpendicular distance in central Rectangular area and Radial distance from both semi-circular areas on approach side.
- Any other deduction from radial distance will deviate from the Safety Assessment allowed permissible infringement slope calculation.

Analysis - Technical consideration:

Transitional surface is continuing up to Inner horizontal surface. The transitional surface ends at 45M height in all direction from runway strip (150m point).

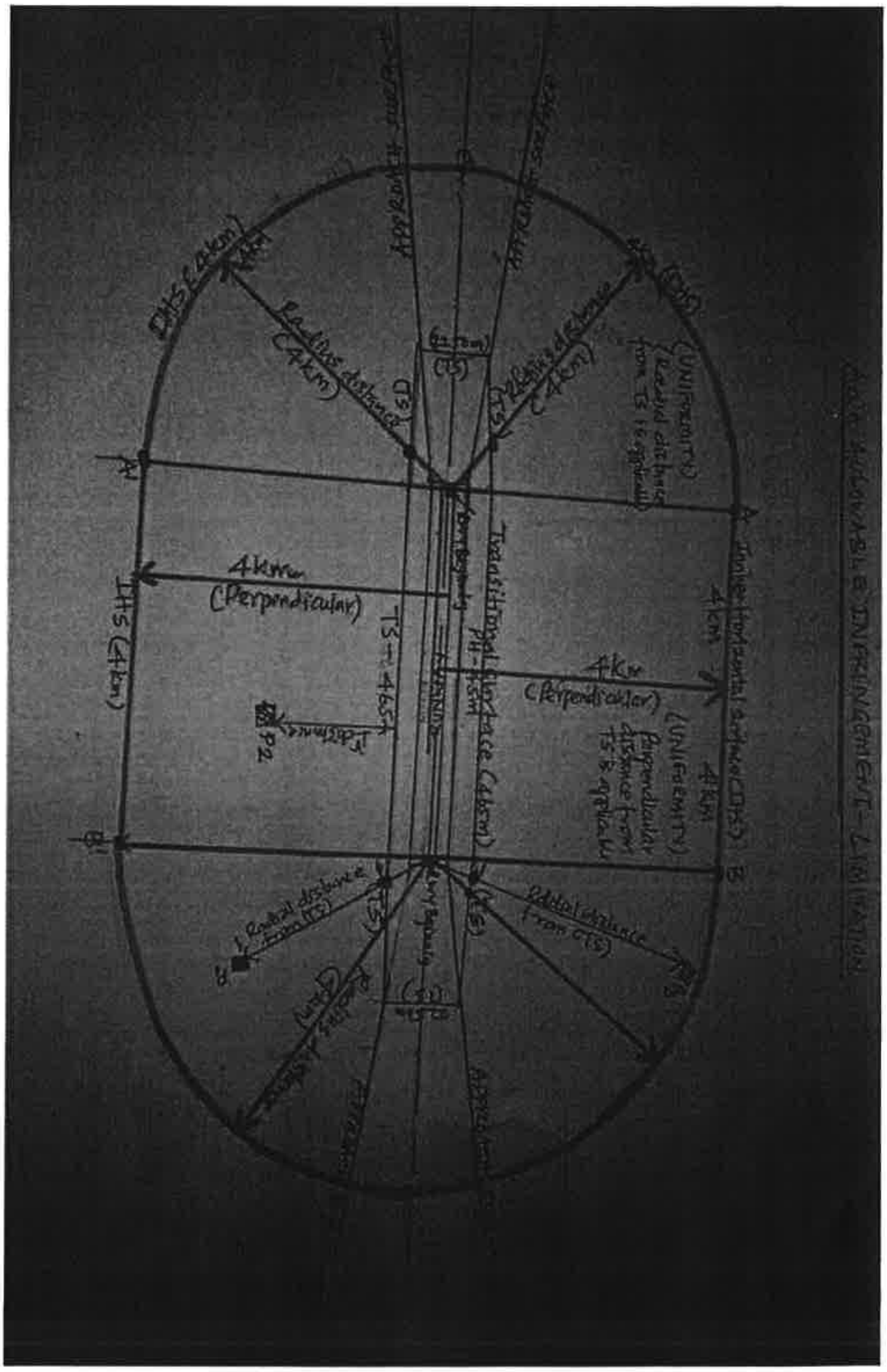
CENTRAL PORTION (Runway Extremity to Runway Extremity):

- The central part is considered 4km perpendicular to runway centerline - i.e., between runway beginnings. The shortest distance is lateral (Perpendicular) distance from transitional surface (465m point).
- In central portion (465m) due 14.3% (1:7) slope applicability. (Between Beginning of the runways),
- Hence, Lateral (Perpendicular distance from Transitional surface is applicable for AGA Allowable Infringement Calculation

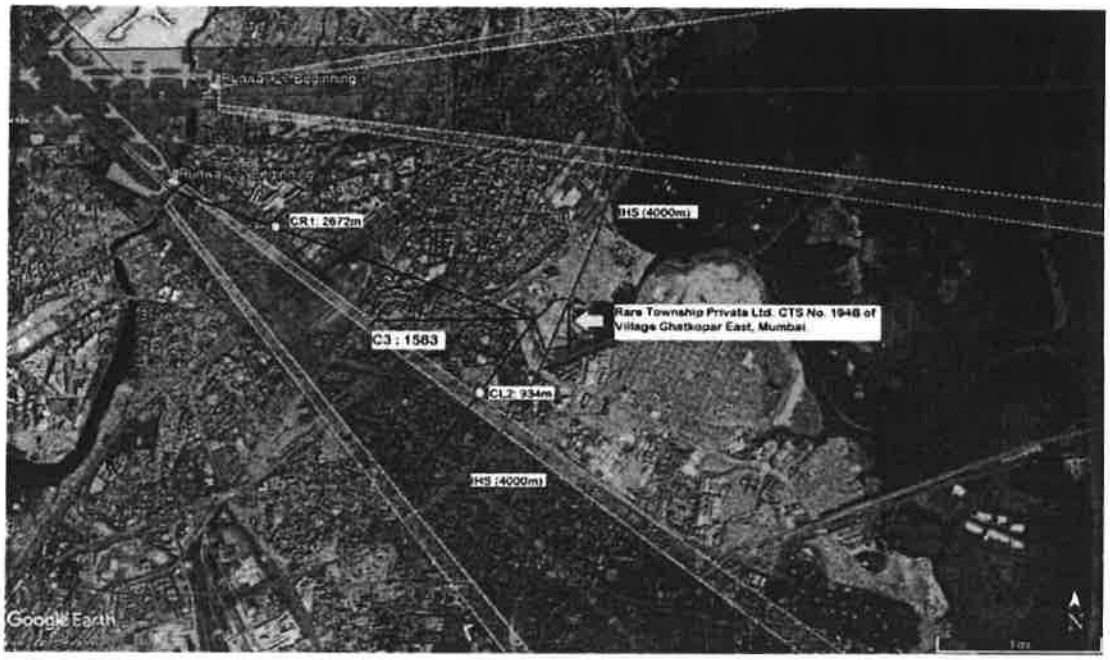
APPROACH PORTION (Runway Extremity to Approach Area 4km):

- The Inner Horizontal surface is drawn 4 km radius distance from runway beginning point.
- Before the beginning of runways due to applicability of 2% (1:50) & 14.3% (1:7)slope, Approach surface distance of 2250m from beginning of runway.
- The transitional surface ends at 2250m in the approach section.
- There is no Transitional Lateral reference after 2250m.
- **Only Radial reference distance from transitional surface is applicable with respect to Geometrical Configuration of Inner Horizontal Surface (IHS) and to meet with the study objective of gradual and uniformity as the distance of the object from the Airport Runway End increases.**

However, it APPEARS new calculation considering only lateral shortest distance from Transitional surface for all the sections. (Beginning (Radial) + Central (lateral) + Beginning (Radial), instead of radial distance from transitional surface in the approach portion. **This will not comply with objective of safety assessment study recommendation.**


4km (Perpendicular)
IHS (4km)
Radius distance (4km)
Transitional Surface (4km)

CASE STUDY : RARE TOWNSHIP PVT.LTD., MUMBAI
(NOC ID : SNCR/WEST/B/120315/223895 (26/02/2015).
Details of the site: CTS No. 194B of Village Ghatkopar East, Mumbai.



1. **EXISTING FORMULA CALCULATION**

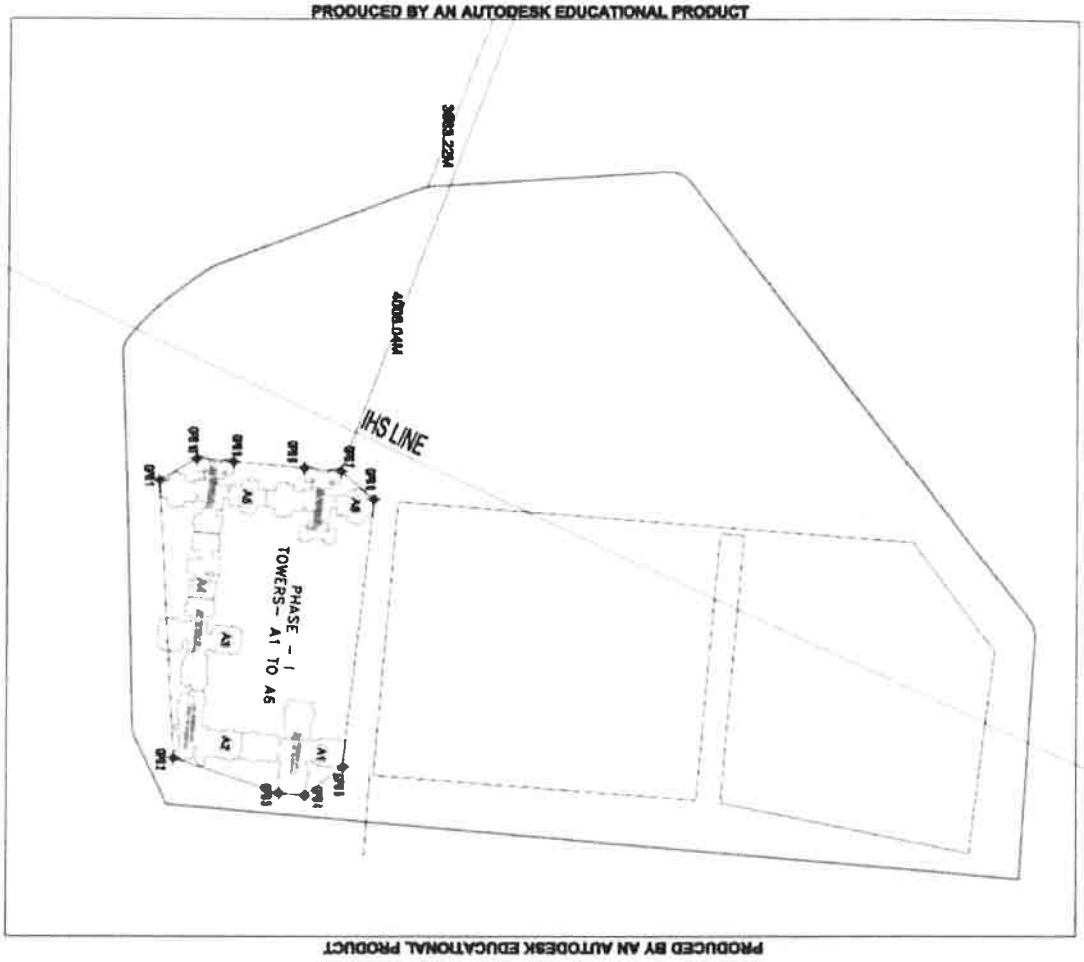
   - The proposed site lies in Inner Horizontal Surface and is at a distance of 3781 m from Runway 14 beginning of Santa Cruz Airport.
   - The allowable infringement = (3781 – 465) x 0.0127 + 56.90 = 99.01m

2. **New formula calculation (Anticipated): Lateral distance from TS:**

   - The proposed site lies in Inner Horizontal Surface and is at a **shortest Lateral distance** is of 1366 m from Runway 14/32 transitional surface.
   - The allowable infringement = 1583 x 0.0127 + 56.90 = **77.0m AMSL**

3. **New formula calculation : Radial distance from nearest TS point.**

   - The proposed site lies in Inner Horizontal Surface and is at a **shortest Radial distance** of 2672 m from Runway 14/32 transitional surface.
   - The allowable infringement = 2672 x 0.0127 + 56.90 = **90.83m AMSL**



NOTE
• **The Inner Horizontal Surface (IHS line) is passing mid of reference plot.** • The beginning of the plot is 3782m from Runway 32 and end of plot is 4132m from runway 32 of Santacruz Airport. • The Reference plot site fall partially within Inner Horizontal Surface and remaining portion within Conical surface. • The Phase 1 comprises of 6 Towers (A1 to A6) fall within Conical surface . • The Phase 2 & 3 comprises of 11 buildings fall within Inner Horizontal Surface

Minutes of the Meeting with CREDAI (Confederation of Real Estate Developers Association of India), NAREDCO (National Real Estate Development Council) and PEATA (Practicing Engineers, Architects and Town Planning Association India) on 7th August 2018 at Rajiv Gandhi Bhawan, AAI HQ, New Delhi to discuss interpretation of "Guidelines on Allowable Penetration of OLS in Aeronautical Study Reports".

BACKGROUND

Under the direction of the Secretary, Civil Aviation, a meeting was held on 7th August to discuss interpretation of OLS penetration Guidelines with stakeholders viz. CREDAI, NAREDCO and PEATA. The meeting was held at 'Seminar Hall' Third Floor, Block A, Rajiv Gandhi Bhawan, Safdarjung Airport.

OPENING OF THE MEETING

At the outset Shri R. K. Singla General Manager (ATM) welcomed the participants representing CREDAI and NAREDCO and briefly explained the purpose of the meeting. This was followed by a brief round of introduction of all participants.

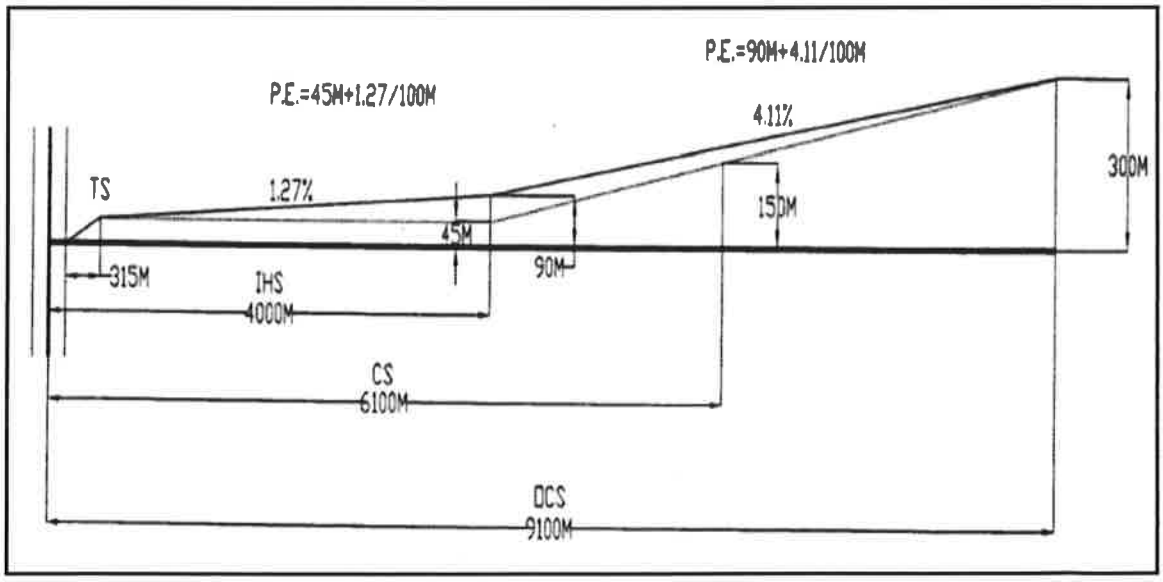
The meeting was chaired by Shri D. C. Sharma Director (Aerodrome Standards) DGCA office. He informed participants that today's deliberation would confine to interpretation of "Guidelines on Allowable Penetration of OLS in Aeronautical Study Reports". He then invited CREDAI/NAREDCO to present their point of view followed by AAI.

SUMMARY OF DISCUSSION

CREDAI consultant made the presentation on their behalf. The presentation started with the discussion on recommendations of the Appellate Committee for restricting penetration above OLS by objects which are granted higher height through Aeronautical Study as follows:

1. In IHS higher heights penetrating OLS to be restricted in the slope of 1.27% from end of the Transitional surface upto the maximum height of 90 m above Aerodrome Elevation.
2. In continuation thereto in the conical surface including outer conical surface the heights penetrating OLS to be restricted in the slope of 4.11% from the end of the IHS upto the maximum height of 300 m above Aerodrome Elevation.

Pictorial depiction of the guidelines is shown below:

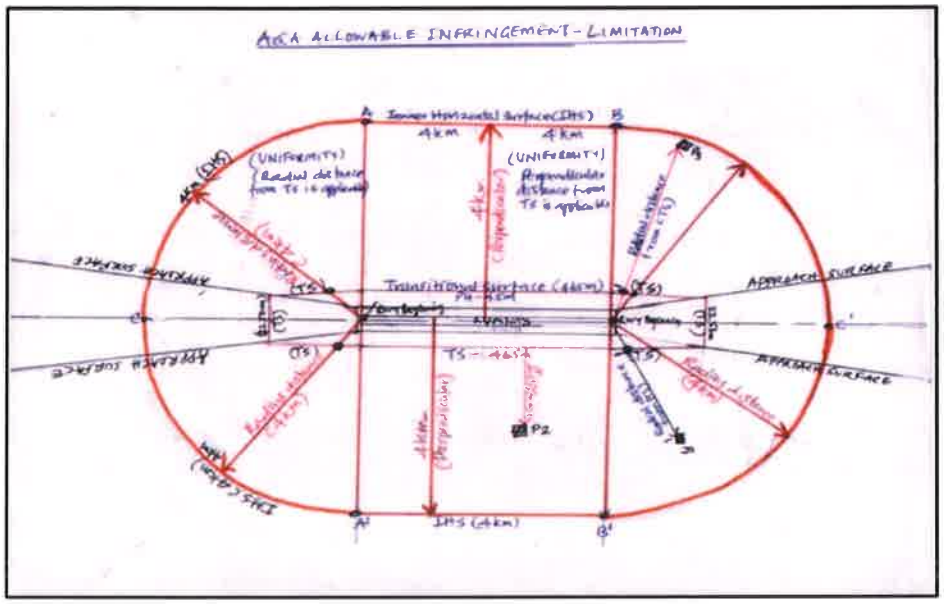


IHS (code 3 & 4): Radius of IHS shall be measured from the runway extremity up to 4000m.
Height of HIS: Aero. Elev. + 45 M (from end of Transition surface)

OLS penetration guidelines: Aero. Elev + 45 M + 1.27% slope from the end of transition surface.

Inner Horizontal Surface (IHS)

As per interpretation of CREDAI expert, in IHS the location of any site should be measured from centre of extremity of runway. IHS is circular in dimension, therefore, the applicable distance should be measured from the end of transition surface through the line connecting runway extremity and the site as shown in the figure below:



Conical and Outer Conical Surface

In Conical and outer conical surface, similarly, the location of any site should be measured from centre of extremity of runway to the site. The applicable distance should be measured from the end of transition surface through the line connecting runway extremity and the site.

Area Adjacent to Approach Surface is only Impacted in IHS

He gave some example indicating that if they follow new interpretation by taking shortest distance from the end of the transitional surface, lower height will be permitted in the area adjacent to approach surface. Whereas, if we follow the interpretation by him then higher height will be applicable. However, in the central portion (i.e. runway extremity to runway extremity) there is no difference in calculation, whether we follow new interpretation by AAI or CREDAI interpretation.

Impact of Revision in OLS Calculations (as per CREDAI/NAREDCO)

- Heights frozen, compliance NOCs taken (Fire, Traffic, Environment, Drainage, etc.)
- Disclosures at RERA impacted
- Existing projects unable to consume full FSI/FAR potential
- Slum/Re-development projects near Airport areas would not be feasible
- Profitability impacted, risk on further project viability

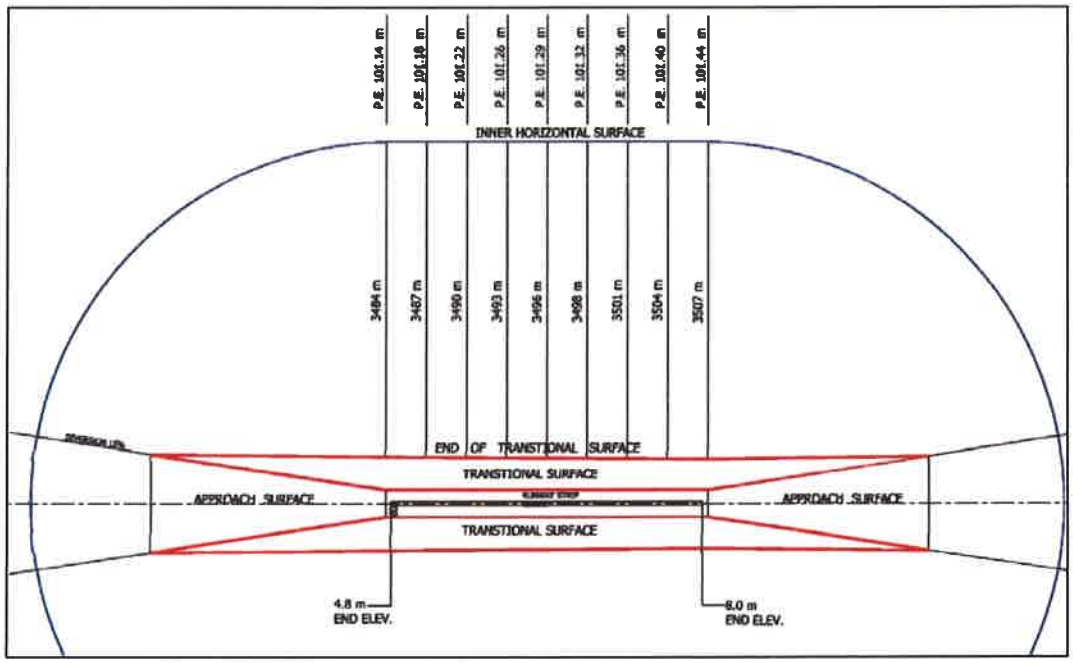
Shri R. K. Singla General Manager (ATM-NOC) made a presentation to explain AAI rationale for changing the interpretation on OLS penetration.

The end of Transional Surface was shown through a diagram below:

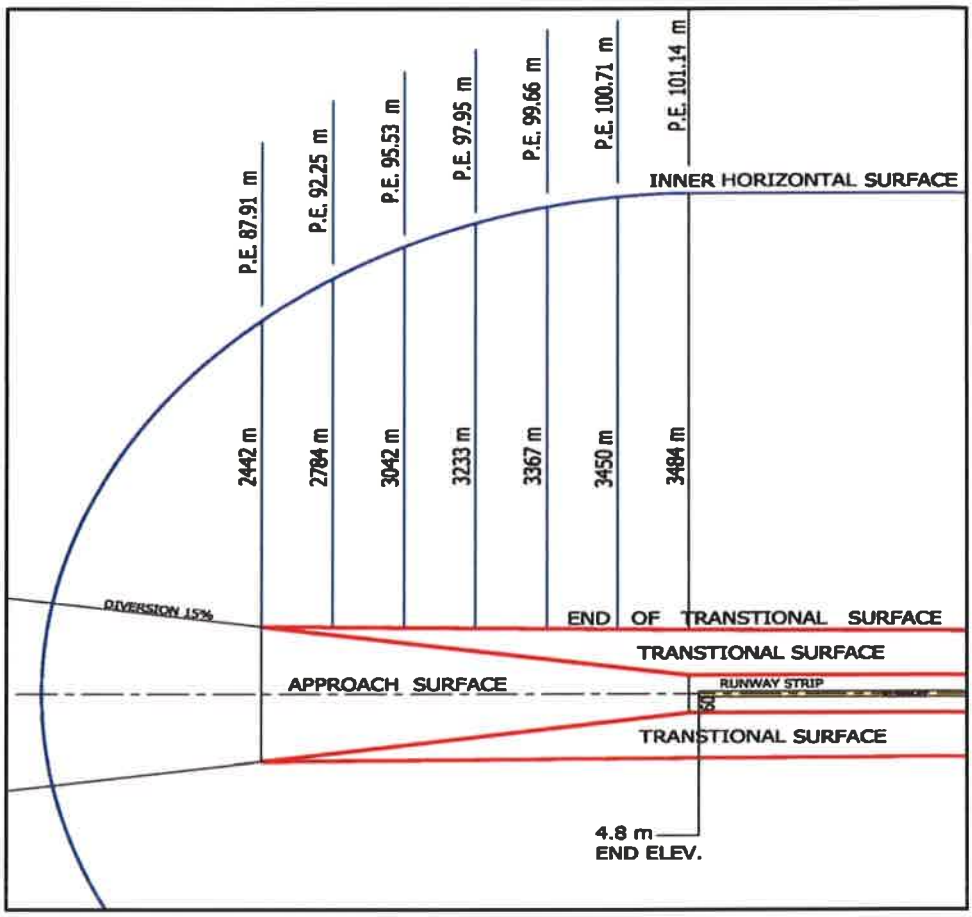
Inner Horizontal Surface (IHS)

As per the guidelines, 1.27 % slope is to drawn from end of Transional Surface to the site in IHS upto the maximum height of 90 m above aerodrome elevation. Therefore, the reference datum is end of Transional Surface. If we have to obtain distance between two points, it is always the shortest distance. Since reference datum is end of the Transional Surface, line cannot be drawn from centre of runway extremity to the site. It should be drawn from end of the Transitional Surface to the site as shown in pictorial diagram below in different areas:

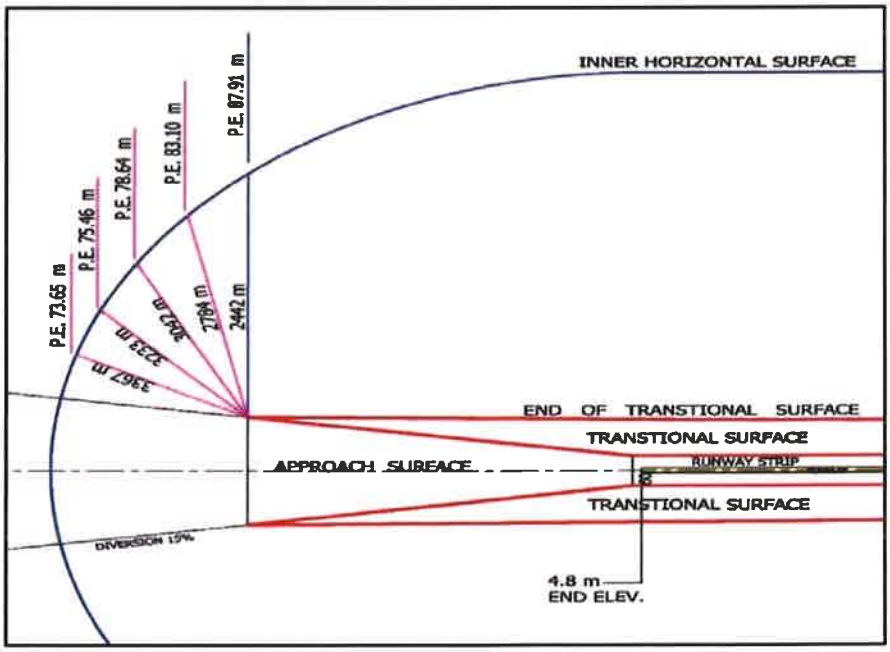
Central portion (i.e. runway extremity to runway extremity)

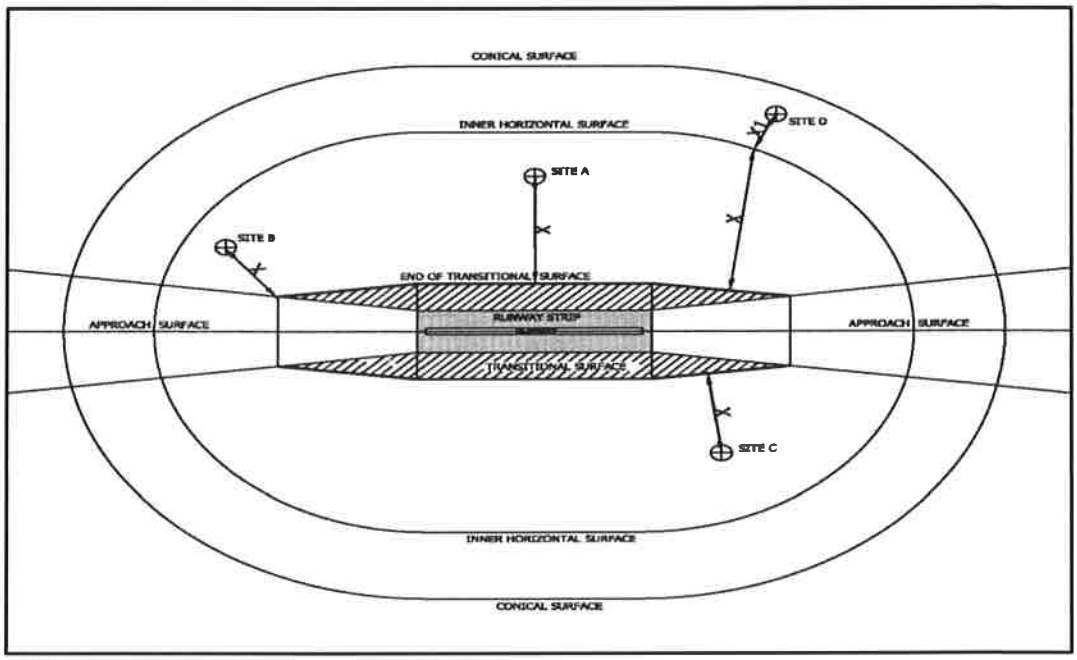


From End of Transitional Surface in approach area



Other area closer to Approach Surface





Conical and Outer Conical Surface

In Conical and outer conical surface, similarly, a line would be drawn from the site to the extremity of IHS, then from that point in IHS to the end of transition (shortest distance).

CONCLUSION

Shri D. C. Sharma Director (Aerodrome Standards) after listening to CREDAI and AAI stated that the issue will be discussed in-house in DGCA taking into account the inputs provided in the meeting and DGCA comments will be provided to MoCA.

Members of CREDAI and NAREDCO thanked Secretary Civil Aviation and AAI for arranging the meeting to discuss such an important issue and for the fruitful deliberations during the meeting. Shri Vineet Gulati Executive Director (ATM) who came at the end of the meeting, concluded the meeting by thanking all the participants for their active participation.

List of the participants is enclosed.

List of Participants

DGCA

1. Shri D.C. Sharma, Director (Aerodrome standards)
2. Shri Sudhir Kr. Singh, Aerodrome Inspector DGCA

AAI

3. Shri Vineet Gulati, ED (ATM)
4. Shri R. K. Singla, General Manager (ATM-NOC)
5. Shri Satyajit Dutta, Jt. General Manager (ATM-NOC)
6. Shri Jeet Prakash, Jt. General Manager (ATM-NOC)
7. Shri D. Guha Roy, Dy. General Manager (ATM-NOC)
8. Shri Sanjay Kar, Asstt. General Manager (ATM-NOC)
9. Shri K. K. Soni, Asstt. General Manager (ATM-NOC)

CREDAI & NAREDCO

10. Shri Gautam Ahuja, MD Ahuja Group Managing Committee Member – CREDAI MCHI
11. Shri Amol M Redij, Head – Liaison, Ahuja Group
12. Shri Kunal Chheda, Head-Corporate Affairs, The Wadhwa Group Committee Member – Civil Aviation, CREDAI, MCHI
13. Shri Rajeev Dube, Chairman Starwing Developers Pvt. Ltd.
14. Shri Sohil Kusumgar, Mahesh Notandas
15. Shri Bharat Panchal, Omkar Realtors & Dev. Corporate Affairs
16. Shri Atul Gulati, Director Kalpata
17. Shri Naman shah, Managing Committee (NAMAN Group)- MCHI
18. Shri Reginald J. Sinchair, GM, CREDAI
19. Capt. Tushar Dalal, Consultant AIRODYNAMIKS – MCHI/CREDAI/PEATA
20. Shri T. Mohanchandran, Consultant - AIRODYNAMIKS