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CREDAI - MCHI

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To
Shri Sanjeev Kumar (I.A.S.)
Chairman Airport Authority of India
Rajiv Gandhi Bhawan,
New Delhi - 110003

Subject: Revisiting the NOCAS calculation on account of the introduction of the buffer of 5 Nautical miles applied around the sector of lower Minimum Sector Altitude by GSR 770 (E)

Respected Sir,

We would like to bring to your kind notice the following amendment introduced vide Para 2.5.1.1 of GSR 770 (E) dated 17.12.2020:

"Note 3: In case of an airport served with different Minimum Sector Altitude in different sectors, a buffer of 5 Nautical Miles (NM) shall be applicable around the sector of lower Minimum Sector Altitude."

This is applicable for Mumbai airport as it has multiple sectors within 25 nautical miles as depicted below:

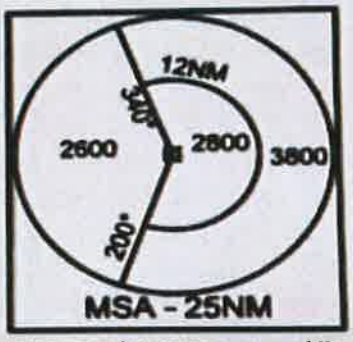

Figure 1 (As per GSR 751(E)

As per the said amendment, the lower sector area extends by 5 NM towards the higher sector as depicted below:

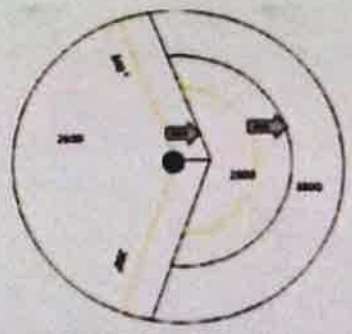

Figure 2: 5 NM buffer addition area

This buffer is used by the procedural designer as per the provisions of PANS-OPS for obstacle consideration:

a) When aircraft transit from the higher to the lower sector, the descent is not given until it crosses the higher sector.
b) When an aircraft transit from a lower to a higher sector, it maintains the altitude of the higher sector into which it enters.

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Therefore, in both cases, the aircraft is not maintaining a lower sector altitude in the buffer area of 5 NM. Ideally, it should be maintaining the lower sector altitude by obstacle consideration. Nevertheless, AAI would be in a better position in understanding the subject and issue.
However, as far as the service volume of radar is considered, that remains protected as the criteria mentioned in relevant para 2.5.1 for ASR and 2.5.2 for ARSR is compiled and the principle of calculation remains unchanged for ASR which state that

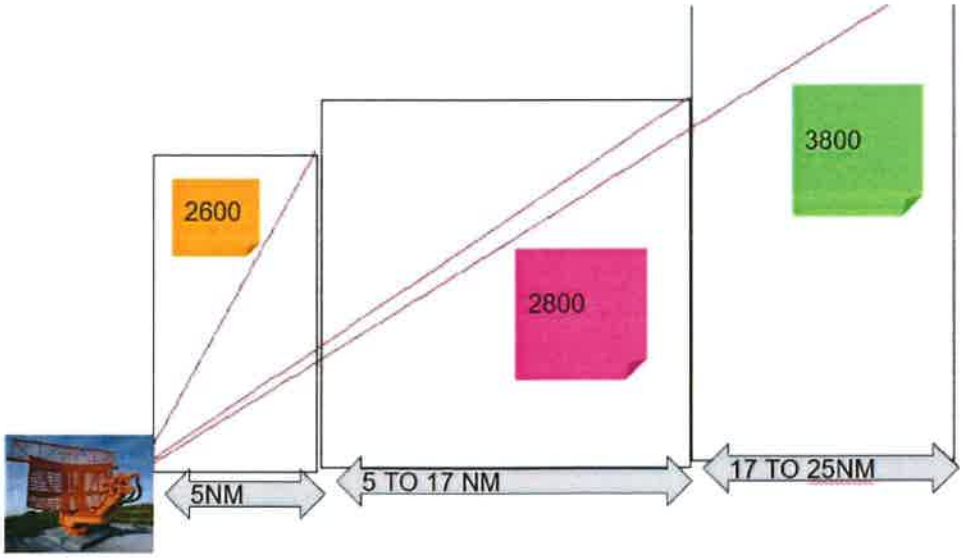
Quote" Beyond 500 meters from a particular Radar site, the height of the permissible structures may be increased at the rate of 0.05 per meter, up to a point wherein the height of the permissible structure does not protrude above the line drawn from a point 10% below the minimum sector altitude at the farthest point (from Radar site) or any other designated MSA at a different distance in the same sector whichever is closer to the horizon, to the centre of antenna pedestal, considering the Minimum Sector Altitude (MSA) in that particular sector. **Beyond the above-stated point, no large object would be permitted to protrude above the line drawn from a point 10% below the minimum sector altitude at the farthest point (from the Radar site) or any other designated MSA at a different distance in the same sector whichever is closer to the horizon to the centre of antenna pedestal depending on the minimum Sector Altitude in that particular sector. "unquote**

For ARSR

Quote

"Beyond 200 meters from a particular Radar site the height of the permissible structures may be increased at the rate of 0.05 meter per meter, up to a point wherein the height of the permissible structure does not protrude above an angle of elevation of more than 0.5 degrees at the antenna pedestal or an angle equal to antenna tilt angle set during last flight inspection whoever is higher. **Beyond the above-stated point, no large object would be permitted to protrude above the line drawn at an angle of 0.5 degrees from the antenna pedestal or an angle equal to the antenna tilt angle set during the last flight inspection whichever is higher.** Large object means the structure subtending azimuth angle of 0.4 degrees or above at the Radar antenna. In the case of a cluster of buildings wherein the gap between the two adjacent buildings sub tends to an azimuth angle of less than 0.4 degrees on the antenna pedestal, the entire cluster should be considered as one object" **unquote**

On publication of GSR 751(E) the above requirements were introduced in the NOCAS software and the NOC was processed accordingly.
Now, with the implementation of Rules 2020 - GSR770(E), we find the calculation change and the lower altitude MSA calculated angle is applied for even the buffer area, different than the above principle.
As per our understating, as per GSR751 and GSR 770(E) with 5 NM protection rule, should be calculated as below



(Sector height for a specific distance may be calculated/considered and the least of the calculation may be applied for the issue of NOC height)

We, therefore, request your good office to revisit the calculation/interpretation of the above change or the NOCAS software to transform the above principle into a NOC result.

We hope that our above request will be considered positively and necessary action will be taken accordingly.

Thanking you.

Yours faithfully,
For CREDAI-MCHI

Boman Irani
President

Dhaval Ajmera
Hon. Secretary