



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG**

Bangkok, Thailand, 23 – 27 July 2012

Agenda Item 5: Navigation

RATIONALIZATION OF CRITICAL AREA BEHIND LOCALIZER ANTENNA

(Presented by India – Airports Authority of India)

SUMMARY

This paper presents the considerations for the critical area behind Localizer Antenna. With introduction of log periodic antenna, the susceptibility of ILS signal in space due to area behind localizer antenna has been considerably reduced. Accordingly the critical area requirement behind the antenna may be reviewed and rationalized

This paper relates to –

Strategic Objectives:

A: Safety - *Enhance global civil aviation safety*

C: Environmental Protection and Sustainable Development of Air Transport - *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-12 Functional integration of ground systems with airborne systems

GPI-21 Navigation systems

1. Introduction

1.1 With introduction of log periodic antenna, the susceptibility of ILS signal in space due to area behind localizer antenna has been considerably reduced. Accordingly the critical area requirement behind the antenna may be reviewed and rationalized.

2. Discussion

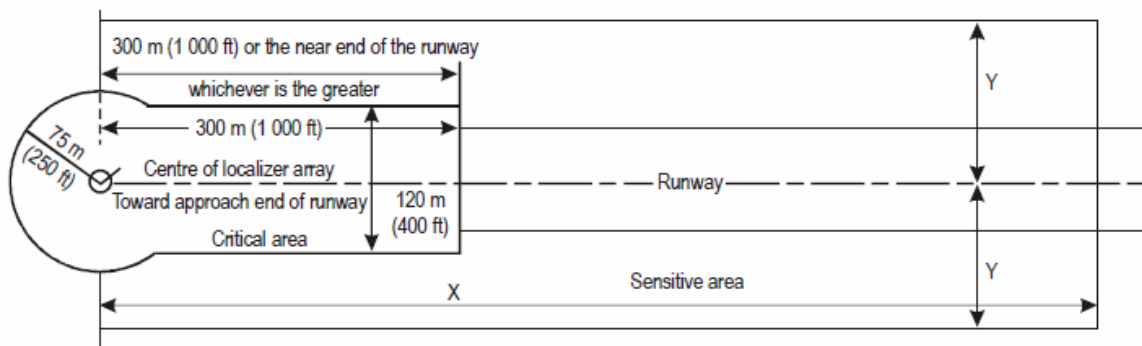
2.1 Log periodic antenna for localizer are being extensively used because of it high directivity and less susceptibility to nearby ground obstructions. As the majority of manufacturer are providing antenna with front to back ratio of 24-26 dB the rear critical area can be reduced considerably.

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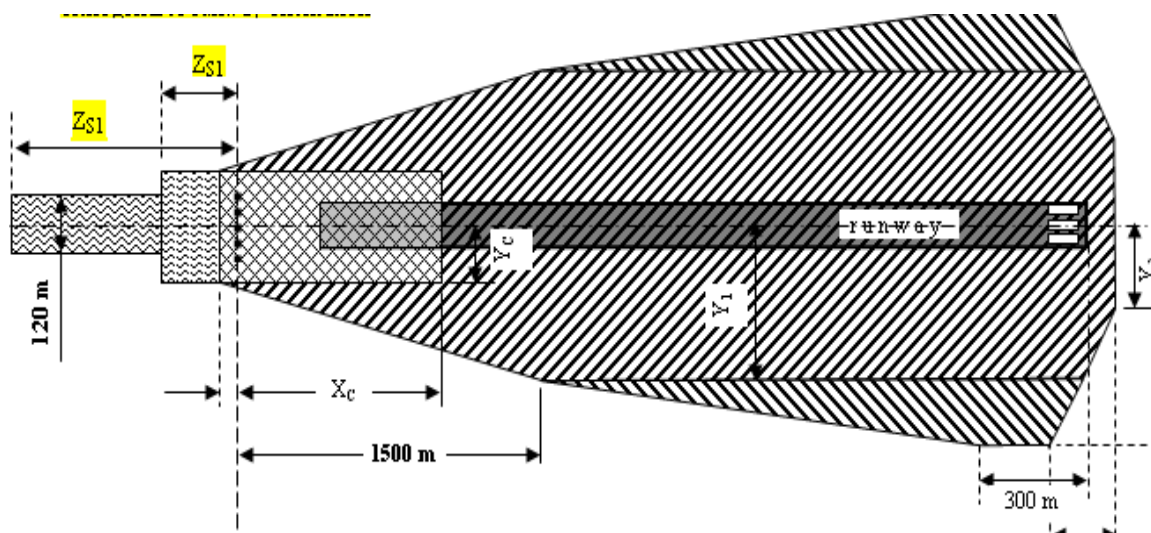
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2.2 The said critical area on the rear side of Localizer antenna will also be a limiting factor for the runway length especially for the airports which experience land constraints.

2.3 The present critical area behind the localizer antenna is defined as below:



2.4 The proposed critical area behind the localizer antenna by CNTSG is as depicted below:



2.5 This additional area will not only be at the cost of airport development but also be a major limiting factor for runway length at land constrained airport.

3. Action by the Meeting

3.1 The meeting is, therefore, invited to:

- a) note the information contained in this paper; and
- b) recommend issuance of amendment for reducing, minimizing or making optional the rear critical area behind the Localizer Antenna.
