

PROPOSED TERMS OF REFERENCE FOR EIA STUDIES

Project	Development of Greenfield International Airport at Bhogapuram, District-Vizianagaram, Andhra Pradesh
Category	A [7 (a): Development of an Airport]
Project Proponent	Bhogapuram International Airport Corporation Ltd (BIACL)
Location	The Proposed Airport site (identified by district administration is) is located 45 kms from Visakhapatnam (in North East direction) on NH-5 and 25 kms from Vizianagaram via NH-43. The site is located in East-West Direction near Bhogapuram Village, on the East of NH-5 towards the coast line.

INTRODUCTION

Government of Andhra Pradesh has planned to construct 5 new airports in Andhra Pradesh at Bhogapuram, Oravakallu, Kuppam, Dagadarthi & Tedepaligudem in addition to existing 6 airports.

The history of Vizianagaram district is connected with hoary past of Kalinga, one of the political divisions of ancient India. Only in modern times, the upper part of Kalinga was gradually merged into Orissa State and the lower part into Andhra Region. An important event in the history of the district is the war between the Rajas of Vizianagaram and Bobbili, popularly known as Bobbili Yuddham. Vizianagaram is the main city of the Vizianagaram District of North Eastern Andhra Pradesh in Southern India. Vizianagaram district was formed on 1 June 1979, with some parts carved from the neighbouring districts of Srikakulam and Visakhapatnam. It is, at present, the largest municipality of Andhra Pradesh in terms of population. It is located about 18 km inland from the Bay of Bengal, and 52 km northeast of Visakhapatnam.

Besides its rich cultural heritage, the Vizianagaram district has the potential to attract the eyes of the tourists. Nestling between the Bay of Bengal and the eastern Ghats, the landscape of Vizianagaram with its captivating intensity would undoubtedly attract the overwhelming response of tourists. The Eastern Ghats, which is the source of the scenic Thatipudi reservoir, is an eternal inspiration to the admirers of nature. Still somewhere in Vizianagaram something is awaiting to be known by the naturalists and the ornithologists and spiritualists. Bobbili is another historical town where the famous Bobbili battle was fought on 24th January 1757. A war memorial was erected on the battle side in 1891. The Government of Andhra Pradesh has recognized it as a protected monument. Bobbili Fort is situated in this ancient town. It stands as a silent testimony to his hard fought battle. The Venugopal Swamy temple located in Bobbili is renowned through-out the North coastal districts. There are many more potential for tourists who visit Bobbili.

The archeological explorations and excavations conducted at places such as Ramatheertam 12 KMs from Vizianagaram are unique and the representative of all three faiths Jain, Buddhist and Hindu. The three hills of Bodikonda, Gurubhakta Konda and Durga Konda at Ramtheertam contain Jain and Buddhist relics. It was the abode of both Hinayana and Mahayana, Schools of Buddhism. Commemorative types of inscriptions, seals, remains of chayas, stuphas and monastic cells have been discovered at the site. In the modern period Ramatheertam became famous as the abode of Vanavasa Rama.

Recognizing the exponential growth of air traffic in India, the Andhra Pradesh State government has unveiled its Civil Aviation Policy-2015 which seeks for the development with an objective of creating a world-class aviation infrastructure in the State that would help provide reliable and seamless air connectivity to regional, national

PROJECT PROPONENT

**BHOGAPURAM INTERNATIONAL
AIRPORT CORPORATION LTD (BIACL)**

PROJECT CONSULTANT

**rites limited
(AIRPORT DIVISION)**

ENVIRONMENT CONSULTANT

**GREENCINDIA CONSULTING PRIVATE
LIMITED NCR, GHAZIABAD**

and international destinations, to make AP a preferred destination for investment in aviation and allied businesses by creating airports as hubs of economic activity.

As of 2011 census of India, Vizianagram had a population of 23.44 lakhs. Ruaral polulation is about 79% of total population (18.53 Lakhs) and urban population is about 21% of total polulation (4.91 Lakhs). Vizianagram has 2.31 lakhs with population growth rate of 4.22%. Sex ration is 1019, density of population is 358 with 20.94% of urban population.

EIA METHODOLOGY

The EIA Report will address all the Terms of Reference and will be prepared in accordance to the Environment Protection Act 1986 and EIA Notification 2006 published by Ministry of Environment and Forests, Govt. of India dated 14th September 2006 and further amendments thereof. It will form part of the application to the Statutory Authority.

SITE & STUDY AREA

The Proposed Airport site (identified by district administration is) is located 45 kms from Visakhapatnam (in North East direction) on NH-5 and 25 kms from Vizianagram via NH-43. The site is located in East-West Direction near Bhogapuram Village, on the East of NH-5 towards the coast line..

PROJECT DESCRIPTION

BIACL (Bhogapuram International Airport Corporation Ltd) has been decided to develop an airport at Dagadarthi, Nellore, Andhra Pradesh. BIACL has been RITES LTD (A Government of India enterprise) to prepare a Techno-economic feasibility study for Development of a Greenfield International Airport at Bhogapuram vide LOI No-INCAP (AP)/Dev. of Airports/Consultancy services/M/s RITES/130/2015, dated 02-12-2015. The proposed airport is being planned for operation of Airbus A-308 type of aircraft in Phase-I.

PROJECT LOCATION

This section will discuss the geographic location of the project. The location of the project will clearly define geographical features (e.g. watersheds, national parks / protected areas, military reservations, etc.) and the general access to the project site (e.g. presence of existing road networks, feeder roads, etc.).

PROJECT IINFORMATION // PROCESS IINFORMATION

This portion will include the following:

- Statement of the Official name of the project and name/s of proponents (including address, telephone nos., etc.) responsible / liable;
- Vicinity Plan, Processes involved, Site layout, water balance diagram
- Project cost and area
- Resource / Manpower requirements
- Time frame for project implementation

PROCESS DESCRIPTION

Major design parameters for the facility will be considered which will include review of the forecast of passenger traffic at Airport. Assess the suitability of land for airport development and its adequacy to meet the essential requirements of airport development. Master Plan proposal will be considered based on the attributes of the available traffic data and optimization of other technical and environmental considerations, based on the

performance standards surveyed at other airports, determine peak hour traffic for development and prepare draft terminal building plans to handle the traffic. Utility requirements (Aviation Fuel, LDO, power, and water) will be provided. The emissions from DG sets, noise due to flight operations, sewage and associated wastes, and solid waste disposal measures will be discussed.

PRE-CONSTRUCTION

This section shall discuss / describe the various components of the projects. This section shall also discuss the major activities to be undertaken during the construction phase, which shall include but not be limited to:

- Site mobilization
- Site clearing
- Construction of the major facilities / project components
- Construction of support services e.g. Water & Power supply & Tele-communications, etc.

OPERATION

This section shall discuss the activities to be undertaken during the operation, which shall include but not limited to:

- Major maintenance activities
- Manpower requirements
- Fuel Requirement
- Energy requirements

BASELINE ENVIRONMENTAL SCENARIO

Description of the existing environment, assessment of historical trends of environmental data specific to the proposed site and description of the socio-economic setting in the area will provide an overall picture of the proposed site before any development activities are undertaken. Thus, equipped with the knowledge of the existing environment and awareness of the specifications of the proposed project will help in reliable prediction of the project impacts.

Methodologies used in the data collection (primary data) shall be briefly discussed with the corresponding interpretation of the data obtained. Likewise, all sources of information (secondary data) shall be identified and appropriately acknowledged.

Study Modules	Scope of Coverage	Methodology (Type and Resources)
Topography	<ul style="list-style-type: none"> • Landform Pattern 	<ul style="list-style-type: none"> • Slope & Elevation
Soil	<ul style="list-style-type: none"> • Soil physical & chemical characteristics /analysis 	<ul style="list-style-type: none"> • Primary soil survey and analysis
Hydrology	<ul style="list-style-type: none"> • Groundwater table • Drainage system 	<ul style="list-style-type: none"> • Characterization of inland surface water
Meteorology / Climatology	<ul style="list-style-type: none"> • Wind Rainfall Pattern • Frequency distribution of wind direction • Temperature • Associated atmospheric pressure 	<ul style="list-style-type: none"> • Primary Data Collection • Secondary data from nearest IMD station.
Air Quality	<ul style="list-style-type: none"> • Ambient Air Quality 	<ul style="list-style-type: none"> • Identification of air pollution

Study Modules	Scope of Coverage	Methodology (Type and Resources)
	<ul style="list-style-type: none"> PM10, PM2.5, SO2, NOx and CO 	sources <ul style="list-style-type: none"> Air quality measurement
Water Quality	<ul style="list-style-type: none"> Surface and Ground Water characteristics Physico-chemical and bacteriological characteristics 	<ul style="list-style-type: none"> Sampling and analysis of surface and ground water
Noise Level	<ul style="list-style-type: none"> Ambient noise level at proposed site and nearby areas 	<ul style="list-style-type: none"> Noise quality measurement
Traffic Intensity	<ul style="list-style-type: none"> Traffic characterization and assessment of peak hours 	<ul style="list-style-type: none"> Primary traffic survey on nearby road intersections
Flora	<ul style="list-style-type: none"> Summary of vegetative cover 	<ul style="list-style-type: none"> Primary ecology survey supported by secondary data collected from regional office
Fauna	<ul style="list-style-type: none"> Terrestrial fauna species inventory survey 	<ul style="list-style-type: none"> Primary ecology survey supported by secondary data collected from regional office
Demography	<ul style="list-style-type: none"> Population Size Population density, household size Population by gender Literacy rate Occupational and employment status 	<ul style="list-style-type: none"> Principal data from census
Other Social Services	<ul style="list-style-type: none"> School facilities Telecommunication, water and power facilities 	<ul style="list-style-type: none"> Principal data from census
Transportation	<ul style="list-style-type: none"> Network and mode of transportation 	<ul style="list-style-type: none"> Identification of main and access road, mode of transportation

ASSESSMENT OF ENVIRONMENTAL IMPACTS

There shall be an assessment on feasibility and cost-effective measures to prevent or reduce significant negative environmental impacts identified, to an acceptable level. In this section, the following aspects will be assessed.

- The project component and development activities that result in discharges to the environment and the effect of these on the environment:
- Existing conditions in the site area, including existing land-use, resources and other activities, which in combination with the project activity having potential to affect the environment.
- Anticipated environmental effects

This chapter will include appropriate tables and figures to illustrate and summarize the key information that is relevant in understanding the environmental and socio-economic environment. The environmental and socio-economic impact of the proposed project having regard for regional and cumulative effects will be presented. Wherever possible, the impacts will be quantified. This section will also include measures to address

emergency response requirements for accidental events and also estimate costs of those measures and of the institutional training requirements to implement them.

The existing air quality of the region and the impact of the proposed project on regional air quality will be discussed. The component of the project, which will affect air quality, will be identified. Also the ways and means of reducing the air emissions impact will be discussed.

Project activities during construction and operation phases that will affect noise levels and the potential for increased noise resulting from this project will be presented. The effect on noise levels during the construction and operation phase will be ascertained. The project activities that will affect surface water and ground water will be identified. Any water minimization considerations will be included. The quantity and source of wastewater will be presented including a summary of water quality effects and possibility of recycling.

Future waste management projections, storage and disposal plans and locations will be discussed. The quantity and composition of any waste including solid and hazardous wastes produced will be estimated and classified.

Land-use and Socio-economic information will also be provided. The impact on the resources and the present population will be highlighted. This will include the effects on employment, livelihood, economy and infrastructure.

Resource / Environment	Construction Phase Impact	Operation / Maintenance Phase Impact
Land	<ul style="list-style-type: none"> • Modification of land forms 	<ul style="list-style-type: none"> • Change in present form
Water Quality	<ul style="list-style-type: none"> • Change in quality of surface and groundwater 	<ul style="list-style-type: none"> • Change in quality of water bodies, if required
Air Quality	<ul style="list-style-type: none"> • Dust generation • Change in construction of pollutant gases 	<ul style="list-style-type: none"> • Change in level of gaseous pollutants i.e. TSP, SO₂ and NO_x
Noise Level	<ul style="list-style-type: none"> • Change in noise level 	<ul style="list-style-type: none"> • Change in noise level from various sources such as aircraft operation, maintenance and flight
Wastewater / Solid Waste Management	<ul style="list-style-type: none"> • Wastewater / Solid waste management 	<ul style="list-style-type: none"> • Solid waste management
Socio-economic	<ul style="list-style-type: none"> • Change in employment pattern • Change in infrastructure facilities 	<ul style="list-style-type: none"> • Change in economy of region • Employment benefits

ENVIRONMENTAL MANAGEMENT PLAN

Environment Management Plan will address all the relevant issues like Land Management, Noise pollution, Air emissions, Water Management, Hazardous materials management, Waste Management besides landscape plan and Rain water harvesting.

MONITORING PROGRAM

The EIA shall contain a monitoring program for parameters included in the baseline studies. An Environmental Monitoring Plan containing the following information would serve as a guide in the monitoring activities:

- Frequency of sampling and sampling points
- Sampling parameters
- Work and financial plan for the current year

The chapter would describe the project cost towards environment protection.

CONTINGENCY / EMERGENCY RESPONSE PLAN

Procedures on how to cope with emergencies / accidents shall be outlined in a comprehensive contingency / emergency response plan. The institutional responsibilities will be made clear and the flow of communication in cases of emergencies will be included.