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पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
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F.No.10-29/2011-IA.III **Dated: 1st June, 2011**

To
Director of Mopa Airport,
Office of the Directorate of MOPA,
Airport and Collector of North Collectorate Bldg.,
Panaji, Goa – 403 001.

Subject: Finalization of ToR for development of Greenfield International Airport at Mopa, Goa by M/s. Directorate of Transport, Goa - Reg.

Dear Sir,

Kindly refer to your above proposal submitted to this Ministry. The project involves development of Greenfield International Airport at Mopa, Goa. Directorate of Transport (DoT), Government of Goa (GoG) proposes to develop a greenfield International airport and appointed International Civil Aviation Organization (ICAO) in 2005 to assess its feasibility. Three alternative sites were analyzed in 1996 for the development of the International Airport; Site 1 at Mopa in an area of 4500 acres, Site 2 at Quintol in an area of 2000 Acres and Site 3 at Siolim in an area of 1000 acres. Based on alternative site analysis, Mopa Site was selected for development of the Greenfield Airport. The selected project Site falls between Latitude 15^0 44' 8" N and Longitude 73^0 51' 39" E located at Mopa, Pernem Taluka, North Goa District.

The proposed Airport will attract international and domestic air passengers for Phase I (2014) are ~2.8 Million passengers (Mpax) and Phase II (2034) are ~7.3 Mpax. The Passenger Aircraft Movements (Busy Hour) for Phase I are 15 movements/hour (arrivals + departures) and Phase II are 27 movements/hour (arrivals + departures). A380-800 (Code 4F) is the design aircraft for long-term airfield master planning and for structural calculations of culverts, aircraft bridges. The most recent code E aircraft (A 340-600 & B 777-300ER) is considered for geometrical design

The components in Phase I includes one runway, with half parallel taxiway, three runway exits and in Phase II includes one runway, with full parallel taxiway, seven runway exits including four rapid exits. The other facilities includes Terminal building, Security area and control points, GSE storage area, Parking area, Technical area, Cargo area, Maintenance area, General aviation area, Business aviation area, Helicopters area, Road network, Rail connectivity, Airport City (With a hotel, offices, business centre, golf course, employees accommodation). The expected cost of the project in Phase I excluding Airport City is INR 8748 million.

The above proposal was considered in the 100th EAC meeting held on 11th – 12th May, 2011. The details as presented by the project proponents and after discussions, the following "Terms of Reference" were finalized to be suitably added to those furnished by the project proponent.

(i) Describe the project site, geology, topography, climate, transport and connectivity, demographic aspects, socio cultural and economic aspects, villages, settlements and meteorological data.

(ii) Details of master plan and the integration of the airport in the regional plan.

(iii) Examine details of land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.

(iv) Examine the details of the impact on the near by pond due to the project.

(v) Environmental data to be considered in relation to the airport development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.

(vi) Examine baseline environmental quality along with projected incremental load due to the project shall be studied.

(vii) Examine the details of ambient air quality.

(viii) Examine the impact of airport location on the nearest settlements.

(ix) Examine and submit contour map showing the slopes, drainage pattern of the site and surrounding area of the site. Examine in detail the diversion of surface drain system because of low lying area.

(x) Examine and submit details of levels, quantity required for filling, source of filling material and transportation details etc.

(xi) Examine and submit details of Geo-technical studies.

(xii) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.

(xiii) Examine the details of parking requirement for various type of vehicles and circulation plan.

(xiv) Examine the details of the construction material and its transportation.

(xv) Examine the details of probability of flooding of the agricultural land and other areas due to the proposed development/ construction of the airport.

(xvi) Examine the details of afforestation measures indicating land and financial outlay. Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations. The identification of species/ plants should be made based on the botanical studies.

(xvii) Examine and submit the details of Noise modeling studies and mitigative measures.

(xviii) Examine soil characteristics and depth of ground water table for rainwater harvesting before and after the rainy season.

(xix) Examine the details of water requirement, use of treated waste water and prepare a water balance chart. Source of water vis-à-vis waste water to be generated along with treatment facilities to be proposed.

(xx) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water.

(xxi) Examine details of Solid waste generation treatment and its disposal.

(xxii) Examine the details of fuel storage.

(xxiii) Examine the details of the energy requirement and conservation measures using alternate source of energy.

(xxiv) Seismic nature of the area shall be taken into consideration in the design.

(xxv) The terminal building should carefully incorporate the features of local architecture in and around the area as well as take special measures to highlight the Indian antiquity through a museum like corner depicting the same.

(xxvi) Identify, predict and assess the environmental and sociological impacts on account of the project.

(xxvii) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

(xxviii) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.

(xxix) Submit details of Corporate Social Responsibilities (CSR).

(xxx) Details of economics of agricultural land loss in longer period for the proposed development.

General Guidelines

i) The EIA document shall be printed on both sides, as for as possible.

ii) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.

iii) On the front page of EIA/EMP reports, the name of the consultant/ consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TORs (TOR proposed by the project proponent and additional TOR given by the MoEF) have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4th August, 2009).

iv) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4th August, 2009). The project leader of the EIA study shall also be mentioned.

v) All the TOR points as presented before the Expert Appraisal Committee (EAC) shall be covered.

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

Yours faithfully,

(Bharat Bhushan)
Director (IA-III)
01.06.2011

Copy to:
The Member Secretary, Goa Pollution Control Board, Dempo Tower, 1st Floor, Patto Plaza, Panjim, Goa – 403 001.