F.No.10-53/2009-IA.III
Government of India
Ministry of Environment & Forests
(IA-III Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003,

Dated: 22nd November, 2010

To
Vice Chairman & Managing Director,
City & Industrial Dev. Corpn. of Maharashtra Ltd.,
CIDCO Bhawan, CBD-Belapur,
Navi Mumbai-400 614.

Subject: Environmental and CRZ Clearance for establishment of Navi Mumbai International Airport by M/s. City & Industrial Development Corporation of Maharashtra Ltd. - Reg.

This has reference to your letter no. CIDCO/T&C/ACTE/MD/2009/567 dated 16.06.2009 and subsequent letters dated 06.07.2010, 07.08.2010, 10.10.2010 and 12.11.2010 seeking Environmental and CRZ Clearance under the Environment Impact Assessment Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 1991. The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, 2006 as amended in 2009 and CRZ Notification, 1991 on the basis of the mandatory documents enclosed with the application viz., Questionnaire, EIA/EMP and recommendations of Coastal Zone Management Authority, the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on 20th - 22nd July 2009, 21st - 23rd July 2010, 18th - 20th August 2010, 21st - 23rd September 2010, 20th - 22nd October 2010 and 09th - 10th November, 2010.

2. It is interalia, noted that the proposed site of Airport is situated on National Highway No. 4B at a distance of approx. 35 kms. from the existing airport near Panvel in the geographical centre of Navi Mumbai having longitude of 73°4.18" and latitude 18°59'.33". The main access to the proposed airport from the east is existing 4 lane National Highway 4B abutting the eastern boundary of the airport and 4 lane concrete road called Aamra Marg touches the western boundary of the airport. The proposed airport is also accessible by present commuter railway line called Mankhurd-Belapur-Panvel commuter railway line from the Khandeshwar Railway Station.

3. The proposal of Navi Mumbai International Airport is proposed to be established on an area of 1160 ha. The airfield of Navi Mumbai International Airport is designed to accommodate the new large aircraft (A-380 and equivalent) compatible to ICAO Standard of aerodrome 4-F. The ultimate capacity of airport will be 60 MPPA which will reach in four stages
commencing from 10 MPPA in 2014. The Airport accommodates two parallel independent runways with the spacing of 1.55 kms. for simultaneous and independent operation with the provision of full length parallel taxi way along runways. The length of runway is of 3700 mts. X 60 mts. with runway safety area of 150 mts. X 60 mts., approach lighting of 900 mts., terminal building of domestic and international including Cargo admeasuring about 5,00,000 sq.mt. with other facilities such as; parking stands, GSE storage area, ATC Tower, airport ground lighting, airport lighting, cargo apron, maintenance and hanger along with other allied facilities etc. The other project activities involved are land development by cutting of hill and filling, development of airport in phases, re-coursing of the tidally influenced water body outlets from Ulwe, shifting of EHVT line, development of non-aeronautical activities, off-site physical infrastructure in terms of roads, interchange, water supply, power, etc., re-settlement & re-habilitation, and development of utility lines required for airport zone. The estimated basic cost (2008-09) of the project is Rs. 8722 Cr. spread over 4 phases i.e. in the first phase Rs 4424 Cr. in 2015 for 10 MPPA and Rs.1934 Cr. in 2020 for 25 MPPA in second phase; and Rs.1728 Cr. in 2025 for 45 MPPA in 3rd phase and finally Rs.636 Cr. in 4th phase for 2030 for 60 MPPA.

4. The non-aeronautical activities related to airport have been planned in the south of airport on an area of 276 ha. Further an area of 60 ha. will be required for diversion of tidally influenced water body of Ulwe River and 279 ha for off site infrastructure for roads, and crossings/intersection improvements.

5. A ToR for the project was issued on 04.08.2009. The Expert Committee also visited the site on 23rd December, 2009 and an additional TOR was issued on 8th February 2010. The public hearing was conducted on 5th May 2010 at Panvel Taluka, Dist. Raigad by Maharashtra Pollution Control Board (MPCB), Maharashtra and final EIA/EMP was submitted by CIDCO on 6th July 2010 for the issue of Environmental and CRZ Clearance. The recommendations of MCZMA were also submitted on 6th July 2010.

6. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent, additional clarifications furnished in response to its observations and various representations received on the project, have recommended for the grant of Environmental and CRZ Clearance for the project. Accordingly, the Ministry hereby accords necessary Environment and CRZ Clearance for the above project as per the provisions of Environment Impact Assessment Notification, 2006 and CRZ Notification 1991 and their subsequent amendments, subject to strict compliance of the terms and conditions as follows:

7. **Specific Conditions:**

I. **Construction Phase**

(i) “Consent for Establishment” shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be
submitted to the Ministry before start of any construction work at the site.

(ii) CIDCO shall rehabilitate about 3000 families of 10 settlements from 7 villages falling within the airport zone as per the R & R policy of the Government of India or the Government of Maharashtra, which ever is more beneficial to the project affected persons.

(iii) CIDCO shall obtain necessary permission from Hon'ble High Court of Bombay for cutting or damaging of mangroves and clearance under Forest Conservation Act 1980 as per the orders in respect of notice of Motion no. 417 of 2006 in PIL no. 87/2006, as required.

(iv) The plantation and protection of mangroves over an area of 615 ha (245 hectares of good quality Mangroves Park shall be developed at Vaghivli on the north of the airport area + 60 hectare area located on the west side of the airport site around Moha creek and Panvel Creek + 310 hectares area on the northeast of the airport site between Gadhi River, Mankhurd Panvel Rail corridor and National Highway 4B shall be declared as No-development zone and CIDCO shall under take the development as Mangroves park/green area) would be developed and maintained in the shape of Biodiversity Mangrove Parks well before the airport project is initiated and its progress reported to the high level committee mentioned below at (xxxiii). CIDCO shall formally amend the land use in the sectioned development plan of Navi Mumbai following the due procedure under MRTP Act to achieve this objective.

(v) The proposed re-coursing of tidally influenced water body outlets from Ulwe river has a large cross sectional area at the middle with the river/creek on either end remaining unchanged with its natural course. The whole system should function as was functioning earlier without airport project. Surface runoff should not be let into the channel just because the area of cross section is large. The whole airport area will be reclaimed and the level raised to 7m whereas the existing level all around the airport will continue to be low in its natural state. There will be flow all around due to surface runoff. This additional quantity must be collected by appropriate drainage system and let into Gadhi River and not into the re-coursing channel. The recourse channel may be able to take it but not the river or creek on either side of the channel. This aspect shall be examined by CIDCO in details to avoid the flooding of the low-lying areas besides inducting other hydrological and environmental studies.

(vi) The entire system shall be studied as one composite system with appropriate boundary conditions to reflect the worst conditions - minimum 100 years to be specified and compliance ensured such as flooding, surface runoff not only from the airport but also from surrounding areas as well, normal flow, tidal flow due to tidal surge having a long return period, possible obstructions to flow,
tributaries joining the main river etc so as to take appropriate protection and remedial measures. Due to construction of recourse Channels and also due to tail end of the Gadhi & Ulwe Rivers into Panvel Creek, there is a need to prepare a Comprehensive Master Plan for Surface drainage and Flood protection, keeping in view the proposed developments. CIDCO shall submit the above Master Plan to the Ministry.

(vii) Systemic and periodic monitoring mechanism need to be put in place by CIDCO to assess the impact on sub-surface flow/ impact on aquifers as well as surface water bodies in different seasons. Necessary additional environmental protection measures to be adopted to address the impact of proposed development in coastal sub-subsurface flow as well as impact on aquifers.

(viii) CIDCO shall prepare a Management Plan to handle the runoff from the airport and to ensure that runoff associated risks/ impacts such as siltation in receiving water body are avoided and are taken care within airport area during monsoons.

(ix) On the northern part of the airport there is a secondary channel of the Gadhi River which will be filled up for the airport runway construction. This will be replaced by a shorter channel along the northern boundary of the airport. The channel shall be designed appropriately through overall modeling study so that the channel provides tidal water to the mangrove park and moderate tidal flows under worst environmental conditions. Need for widening and deepening of Gadhi River may also be studied simultaneously, if required. The revised widths and depths of recourse channels shall be determined with modified drainage and worst rainfall/tide conditions including appropriate factor of safety.

(x) The flow channels and the low lying mangrove area which will receive water from diverted recourse/ Channels should remain undisturbed. No road, embankment or any other construction shall be permitted. Any island formed due to deposition of sediment in front of Panvel creek shall be periodically removed.

(xi) A detailed map shall be submitted by CIDCO to the Ministry with quantification of affected mangrove area with density i.e. initial proposal & modified proposal and proposed mangrove forestation with species. The work on the proposed compensatory mangrove park should commence well before the construction of the airport is undertaken. The mangrove irrigation systems and diverse species selections for all the four areas may be scientifically made. The river front development in all the areas not protected by adequate mangrove buffer along the Panvel creek and Gadhi river may be considered through studies.

(xii) Whatever EIA data was submitted and presented was related to a situation for “no airport condition”. The project proposal has under
gone many changes in terms of converting the lagoon as Mangrove Park, shifting of non-aeronautical activities to the south etc. Updated EIA report with all the modifications and commitments given by CIDCO shall be submitted to the MoEF, MPCA and to MCZMA. This updated EIA report will serve as the preliminary baseline data. CIDCO shall submit the second report (EIA Report II) after finalization of all the facilities followed by Comprehensive EIA report prepared with approved layout of the airport, new hydrological scenario, altered topography and land use. The Comprehensive EIA report should also include ecological aspects answering qui res raised by BNHS and several other points raised during the meeting. After completion of Phase I of the project, the CIDCO shall conduct the “Environmental Audit” with a reputed organization and the audit shall also include the “Validation of the conclusions drawn in the EIA Report” and to submit to MoEF, MPCA and to MCZMA and shall be uploaded on the website.

(xiii) The water quality of the River Gadhi, Ulwe, the Panvel Creek and the ground water is to be monitored on quarterly basis for TOC, Pb, Cd and Hg at all the locations identified in the EIA study for a period of at least 2 years from the commencement for the construction work and the quarterly reports to be submitted to Ministry of Environment and Forests Govt. of India and Maharashtra State Pollution Control Board.

(xiv) The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, Sulphates, Phenolic compounds, V.O.C’s etc. The surface runoff from the airport area shall also contain oils, grease, Sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant for managing the waste water shall be specified and adopted.

(xv) Based on the geological profile underneath the proposed airport, suitable consolidation factor shall be arrived to assess the additional noise/ vibration levels that would be produced during impact of landing & take off the air crafts simultaneously on both the runways. Further, the partially quarried hills in the vicinity will become a rebound shell for noise. CIDCO shall examine the details of noise/ vibration levels those are likely to be increased both during day and night time and the mitigative measures shall be installed to reduce the (noise/ vibration levels) impacts.

(xvi) Standard instrument arrival and departure procedure shall be designed to minimise the noise levels within the permissible limits for the area falling in the funnel near the airport on either side.

(xvii) Energy conservation to the extent of 20% shall be incorporated in the bidding documents including water conservation (reuse/recycle, rain water harvesting and water efficient fixtures) and other green
building practices for various buildings proposed within the airport complex. CIDCO shall consider ECBC Guidelines 2009 to achieve the energy – efficient design.

(xviii) CIDCO shall prepare a detailed traffic management plan to take care of increased vehicular traffic which should also cover/ clearly delineate widening/ increasing the existing roads and associated road infrastructure approving/ installation of road safety features/ pedestrian facility/FOB/under passes etc (that can be done by carrying out road safety audits). Measures shall be taken to prevent encroachment along/within the ROWs on connecting/ main arterial roads.

(xix) Necessary road (National and State Highways) and rail connectivity shall also be upgraded to handle the increased passenger and cargo traffic, in addition to metro for transition of passengers. The proposal of Havorport shall not be taken up on the north part of the airport area as this shall damage the mangroves.

(xx) The measures should be taken to improve public transportation including dedicated road / MRTS corridors to access to Airport, may also be considered for the same. Energy Efficient dedicated rail based public transport facility; suburban/ metro train in particular, may be created between the Santa Cruz and the Navi Mumbai Airport in addition to all other links connecting various parts of Mumbai city.

(xxi) Traffic Management during construction phase should be clearly planned so that the traffic situation is not further worsened on the existing connecting roads. Installations of Noise barrier/ Green Belts should be clearly indicated in the plan (After identifying critical locations).

(xxii) To avoid accidental damage (fire, hazardous material waste handling, oil spills, wastewater disposal) in the adjacent ecologically fragile surroundings and mangrove area – a risk assessment plan and disaster management plan should be prepared and with periodic compliance of safety measures in place to avoid loss due accidental damage that could have been otherwise avoided. Further CIDCO shall appoint a dedicated professional team/cell to handle disaster and associated risks.

(xxiii) In addition to the above –CIDCO shall ensure that all the risks (such as fire, hazardous material waste handling, oil spills, waste – both liquid/solid wastes) associated/ resultant risk during various stages of development (like planning, construction, operation) are managed within the airport area. In case of any unforeseen event as stated above the liability – environmental and social will rest with the
developer/CIDCO, the decision of the high level Committee, stipulated below will be full and final for liability fixations.

(xxiv) The compliance report of the monitoring committee shall be made ‘public’ (put online and/or also displayed for wider dissemination of compliance) at all stages (planning, construction, operation) to ensure effective monitoring and compliance of conditions.

(xxv) Environment Management Plan or associated monitoring plan shall ensure that mitigation measures detailed out in terms of role, responsibility, budgetary provisions, timeline for completion, frequency of monitoring and compliance etc.

(xxvi) In order to meet all the essential aeronautical requirements and the further airport expansions, no property development shall be undertaken within the proposed aeronautical Airport Zone area (1160ha).

(xxvii) The Master plan/Development plan of Navi Mumbai shall be revised and recasted in view of the airport development to avoid and unplanned haphazard growth around the airport. The landuse should take care of bird menace including that from the Mangrove Parks.

(xxviii) All other nearby villages, if not required to be relocated should be provided with best possible infrastructure so that they compare well with the adjoining ultra modern airport infrastructure.

(xxix) CRZ provisions shall be applicable on the tidally influenced diverted channels of Ulwe and Gadhi Rivers and CIDCO shall finalise the Airport plans accordingly.

(XXX) Any cutting or filling up the airport site will create significant turbidity problem. CIDCO shall examine the impact on the marine life. The details will be put up on the website every 3 months.

(XXXI) CIDCO shall conduct the baseline survey of avian fauna before the start of construction and the details shall be put up every 3 months on the website in association with BNHS.

(XXXII) The Environmental Clearance/ CRZ Clearance is recommended below is only for the Navi Mumbai Airport project. CIDCO shall obtain the Environmental and CRZ clearance separately for off airport facilities and other off infrastructure projects after finalising the locations and details as may be required under the EIA Notification 2006 and the CRZ Notification.

(XXXIII) Taking a cue from the man-made 26/11 incident arising out of external threat to our country, a strategic airport safety and security plan covering also surrounding inhabited areas of the airport shall be prepared and put in place in consultation with appropriate government departments.
(xxxiv) A high level advisory and monitoring committee which should include International experts of repute, reporting directly to the highest Airport Management Authority shall be constituted by CIDCO to plan, execute and maintain the environmental issues/recommendations mentioned above. The monitoring shall be done at various stages (planning, construction, operation) of project for compliance of conditions. Budgetory provisions shall be made to the satisfaction of this Committee. The committee shall meet at least once in three months and the decisions taken in the meetings shall be put up on the web site for public information.

(xxxv) Regular modeling study of air, noise shall be carried out due to the increase in traffic

(xxxvi) The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.

(xxxvii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(xxxviii) A First Aid Room will be provided in the project both during construction and operation of the project.

(xxxix) Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

(xl) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.

(xli) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

(xlii) Installation and operation of DG set shall comply with the guidelines of CPCB.

(xliii) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to
Environment (Protection) Rules prescribed for air and noise emission standards.

(xlvi) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.

(xlv) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

(xlvi) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MPCB.

(xlvii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.

(xlviii) Ready mixed concrete must be used in building construction.

(xlix) Storm water control and its re-use as per CGWB and BIS standards for various applications.

(l) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

(li) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

(lii) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.

(liii) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

II. **Operation Phase**

i) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the
Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.

ii) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

iii) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.

iv) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.

v) Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts. above the highest ground water table.

vi) The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.

vii) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.

viii) Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.

ix) Efforts should be made to use solar energy to the maximum extent possible.

III. General Conditions:

(i) In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.
(ii) This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.

(iii) This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.

(iv) Full support should be extended to the officers of this Ministry’s Regional Office at Bhopal and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.

8. These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.

9. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department and Civil Aviation Department from height point of view, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

10. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.

11. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004, if applicable to this project.

12. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

13. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall
update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NOₓ (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

14. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

15. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

Copy to:
1. The Secretary, Department of Environment, Govt. of Maharashtra, Mantralaya, Mumbai – 400 032.
2. The Joint Secretary (AS), Ministry of Civil Aviation, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi 110003.
3. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
4. The Chairman, Maharashtra Coastal Zone Management Authority, Room No.217 (Annexe), Mantralaya, Mumbai – 400 032.
5. The Chairman, Maharashtra Pollution Control Board, Kalpataru Points, 3rd & 4th floor, Opp. Cine Planet, Sion Circle, Sion (E) Mumbai-400 022.
6. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravishankar Nagar, Bhopal – 462016 (M.P.)
7. Guard File.
8. Monitoring Cell.

(Bharat Bhushan)
Director (IA-IA)
2.2.11.2010