



No. J-13011/7/2007-IA. II(T) (pt.)  
Government of India  
Ministry of Environment, Forest and Climate Change

3<sup>rd</sup> Floor, Vayu Block,  
Indira Paryavaran Bhawan,  
JorBagh Road, Aliganj,  
New Delhi-110003

Dated: 13.4.2018

**OFFICE MEMORANDUM**

**Sub: Transfer of Environmental Clearances to M/s Adani Power (Mundra) Ltd.**

Sir,

The undersigned is directed to refer to your online application Nos. IA/GJ/THE/12063/2007 dated 5.2.2018, IA/GJ/THE/19888/2008 dated 5.2.2018 & IA/GJ/THE/19956/2010 dated 5.2.2018, Ministry's letter dated 14.3.2018 and additional documents submitted vide your letter dated 17.3.2018 regarding transfer of Environmental Clearances to M/s Adani Power (Mundra) Ltd.

2. It has been noted that the following Environmental Clearances have been issued by the Ministry.

- i. 2x330 MW Imported Coal based Thermal power Project at Tunda, Kutch, Gujarat in favour of M/s Adani Power Pvt. Ltd. vide Ministry's letter even no. dated 13.8.2007.
- ii. 1980 MW (2x330 MW and 2x660 MW) TPP Phase-II at Mundra, District Kutchh, Gujarat in favour of M/s Adani Power Ltd vide Ministry's letter no. J-13011/1/2008-IA.II(T) dated 21.10.2008.
- iii. Expansion by addition of 3x660 MW Coal Based Thermal Project at Village Tunda Wandh, Mundra Taluk, District Kutch, Gujarat in favour of M/s Adani Power Ltd. vide Ministry's letter no. J-13012/126/2008-IA.II(T) dated 20.5.2010.

3. It has been noted that you have requested for transfer of the above mentioned Environmental Clearances in favour of M/s Adani Power (Mundra) Ltd. It has been noted that transferor has furnished 'No Objection' for transferring these ECs to new company. An undertaking by the M/s Adani Power (Mundra) Ltd. has also been provided to the comply with the conditions stipulated in the Environmental Clearances. Details of the Board of Directors of both the companies (Transferor and Transferee) have been furnished. It has also been noted that both the companies are separate entities having different Board of Directors. Further Certificate of incorporation for the Transferee Company (M/s Adani Power (Mundra) Ltd.) vide Certificate of Registrar of Companies dated 27.4.2017 has been furnished.

4. The proposal has been considered in the 15<sup>th</sup> EAC (Thermal) meeting held on 28.2.2018. In acceptance of the EAC recommendations and in view of the documents/clarifications furnished by you, the Ministry hereby transfers the Environmental Clearances dated 13.8.2007, 21.10.2008 and 20.5.2010 in favour of "M/s Adani Power (Mundra) Limited".

*N. Subrahmanyam*

5. Accordingly, the name of the addressee mentioned in the aforesaid letters issued by this Ministry with respect to above mentioned projects shall be substituted by the following:

**M/s Adani Power (Mundra) Ltd.**

Adani House, Near Mithakhali Six Roads

Navrangpura, Ahmedabad – 380009

**Gujarat.**

6. All other terms and conditions mentioned in this Ministry's aforesaid letter of even no. dated 13.8.2007, 21.10.2008 and 20.5.2010 shall remain same, as applicable.

This issues with the approval of the Competent Authority.

Yours faithfully,

*N. Subrahmanyam*

**(N. Subrahmanyam)**  
**Scientist 'C'**

**M/s Adani Power (Mundra) Ltd.**

Adani House, Near Mithakhali Six Roads

Navrangpura, Ahmedabad – 380009

**Gujarat.**

*Copy to:-*

1. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
2. The Additional Principal Chief Conservator of Forests, MoEF&CC, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, E-5, Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal – 462016.
3. The Chairman, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar-382010.
4. Guard File/Monitoring File/Website/Record File.

**(N. Subrahmanyam)**  
**Scientist 'C'**



**BY SPEED POST**

**J 13012/126/2008-IA.II (T)  
Government of India  
Ministry of Environment & Forests**

Paryavaran Bhawan  
CGO Complex, Lodi Road  
New Delhi-110 003  
Dated: May 20, 2010.

To

M/s Adani Power Limited.  
"Shikhar" (9<sup>th</sup> Floor)  
Mithakhali Circle, Navrangpura  
Ahmedabad - 380009

***Sub: Expansion by addition of 3x660 MW Coal Based Thermal Power Plant (Phase-III) at village Tunda Wandh, in Mundra Taluk, in Kutch District, in Gujarat - reg. Environmental Clearance.***

Sir

The undersigned is directed to refer to your letter dated 15.02.2010 on the subject mentioned above. The Ministry of Environment & Forests has examined the application.

2. It has been noted that the proposal is for expansion by addition of 3x660 MW (Phase-III) Super Critical Technology Coal Based TPP. Environmental clearances for Phase-I (2x330 MW) and Phase-II (2x330 MW + 2x660 MW) were accorded on 13.08.2007 and 21.10.2008 respectively. Land required for Phase-III will be 198.20 ha. FGD shall be installed in Phase-III units. Coal used will be imported and domestic in the ration of 70:30. There are no national parks, wildlife sanctuaries, biosphere reserves, heritage sites etc. within 10 km from the plant boundary. CRZ approval for the project has been accorded for Phase-I and Phase-II. Phase-III plant is outside CRZ. A long term coal linkage for 1980 MW (Phase-II) has been obtained from Mahanadi Coal Fields. Phase-I and Phase-II of the project is based on imported coal. Coal requirement for Phase-III will be 8.39 MTPA at 85 % PLF. Water requirement of 3,15,000 m<sup>3</sup>/hr for Phase-I, II & III and FGD would be met from sea water. The project is in Mundra SEZ. Stack height of chimney shall be 275 m. Cooling tower blow down and RO water reject will be utilized for FGD system. Marine EIA studies have been carried out by National Institute of Oceanography. Public hearing was conducted on 12.03.2010. Cost of the project will be Rs 8960 Crores.

3. The project has been considered in accordance with the provisions of the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated September 14, 2006.

4. Based on the information submitted by you, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA notification dated September 14, 2006, subject to the compliance of the following Specific and General conditions:

**A. Specific Conditions:**

- (i) Phase-I and Phase-II projects shall be run purely on imported coal. Phase-III project shall be run on 70% domestic and 30% imported coal.
- (ii) In case source of fuel supply is to be changed for Phase-I and Phase-II at a later stage, the project proponent shall intimate the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change.
- (iii) The project proponent shall examine in detail the possibility to adopting NIOT technology for desalination of sea water through Low Temperature Thermal Desalination (LTTD) process. In case the same is not feasible detailed explanation shall be submitted.
- (iv) Marine biology shall not be disturbed in the Kotdi Creek and Gulf of Tunda due to any activity arising from the operation of the power plant. Continuous monitoring of the marine biology in the area shall be undertaken and assessed for any changes beyond the natural variability identified and records maintained and submitted to the Ministry from time to time.
- (v) A comprehensive marine biological quality monitoring programme and mitigation measures shall be prepared and submitted within six months to the Ministry for immediate implementation.
- (vi) A dedicated Environment management Cell with suitable qualified personnel constituting of Marine Biologist and an ecologist shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (vii) The project proponent shall not hamper the vocation of the fishing community in the area and it shall be ensured that local fishing community shall be allowed to carry out their vocation in the Creek.
- (viii) The project proponent shall adopt the fishing communities displaced / affected by the power plant and in particular those residing in and around Zarpara Kotdi, Navinal and Tragadi for their overall socio economic development.
- (ix) An endowment of Fishermen Welfare Fund shall be created not only to enhance their quality of life through creation of facilities for fish landing platforms/ fishing harbour/ cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
- (x) Suitable screens (in stages) shall be placed across intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, plankton etc. during extraction of sea water.
- (xi) No ground water shall be extracted for use in operation of the power plant even in lean season.

- (xii) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (xiii) FGD shall be provided for Phase-III units.
- (xiv) The system with COC of at least 1.3 shall be designed since the sea water has high TDS.
- (xv) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xvi) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>.
- (xvii) Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- (xviii) Utilisation of 100% Fly Ash generated for Phase-III shall be made from day one of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xix) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- (xx) Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
- (xxi) For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.
- (xxii) There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other wards necessary preventive measures for spillage from pipelines, such as lining of guard pond used for the treatment of outfall and intake should be adopted. This is just because the areas around the projects boundaries fertile agricultural land used for paddy cultivation.
- (xxiii) To absorb the ground level pollutants, to act buffer against strong winds arising out of tropical cyclones/ storms, to reduce heat load and ameliorate environment, there is a need for shelterbelts/greenbelts/ tree cover along the

coastline, bunds around marshy areas, roadsides, around the project protected monuments, forts, waste places, School Campuses and other vacant lots. Coconut plantations can be developed along the coastline and near villages, School and forts. Stands of Casuariana should also be developed on some dunes and along coasts. Bamboos, neem and other native trees should be planted in and around at the villages.

- (xxiv) The above suggested Green Belt shall consist of 3 tiers of plantations as cited above and largely comprising of native species around the power plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Regional office of the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 70 %.
- (xxv) To meet the expenditure of these plantations and their management, a common Green Endowment fund should be created by the project proponents out of EMP budgets the interest earned out of it should be used for the development and management of green cover of the area.
- (xxvi) No waste water should be discharged onto channel systems, backwaters, marshy areas and seas without treatment. The outfall should be first treated in guard pond and then discharge into deep sea (12 to 15 m depth). Similarly, the intake should be from deep sea to avoid aggregation of fish. The brine that comes out from desalinization plants should not be discharged into sea.
- (xxvii) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant (as may be required). Arrangements shall be made that effluent and storm water do not do not get mixed.
- (xxviii) The project proponent shall identify and develop new fodder farm / grazing land (Gaucher land). Firm financial commitment along with details for development of fodder farm / grazing land shall be submitted with in three months to the Regional Office of the Ministry.
- (xxix) The project proponent shall prepare an action plan to be submitted within three months to the Ministry for regeneration of mangroves in the area and shall specify the financial commitments for the same.
- (xxx) The water containing brine shall be discharged only after cooling at ambient temperature in a guard pond such that the same meets the average salinity of sea water.
- (xxxi) The project proponent shall set up single teacher school in every village in the study area so that village boys and girls do not have to walk long distances. The project proponent shall also explore the feasibility of providing cycles to school going children/students to address school dropouts. Report to this effect shall be submitted to the Regional Office of the Ministry from time to time.

- (xxxii) Action plan for R&R (if applicable) with compensation package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.
- (xxxiii) An amount of Rs 36.0 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 7.20 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.
- (xxxiv) While identifying CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs. In addition a special scheme for upliftment of SC/ST's and marginalised population in the study area out of CSR programme shall be formulated and submitted to the Ministry within six months along with firm commitment of implementation. The scheme shall have an in-built monitoring mechanism.
- (xxxv) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.

**B. General Conditions:**

- (i) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (ii) Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.
- (iii) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.
- (iv) Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.

- (v) Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.
- (vi) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (vii) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.
- (viii) Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> & PM<sub>10</sub> and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.
- (ix) 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.
- (x) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.
- (xi) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xii) A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.



- (xiii) 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 (PM<sub>2.5</sub> & PM<sub>10</sub>), SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.
- (xiv) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.
- (xv) The environment statement for each financial year ending 31<sup>st</sup> 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 the Ministry by e-mail.
- (xvi) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.
- (xvii) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels including NO<sub>x</sub> (from stack & ambient air) shall be displayed at the main gate of the power plant.
- (xviii) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
- (xix) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the

concerned authorities and the dates of start of land development work and commissioning of plant.

(xx) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.

5. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

6. The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.

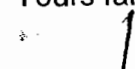
7. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

8. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

9. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

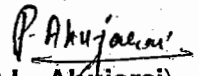
10. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

Yours faithfully,

  
(Dr. P.L. Ahujarai)  
Director

**Copy to:**

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Forests and Environment Department Government of Gujarat.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhi Nagar- 382010- with a request to display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's office for 30 days.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Chief Conservator of Forests, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Ravishankar Nagar, Bhopal - 462016.
7. The District Collector, Kutch District, Govt. of Gujarat.
8. The Director (EI), MOEF.
9. Guard file.

  
(Dr. P.L. Ahujara)  
Director

**BY SPEED POST**

No. J- 13011/1/2008-IA-II (T)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan  
CGO Complex, Lodi Road  
New Delhi-110003.

Dated: 21<sup>st</sup> October, 2008

To

M/s Adani Power Ltd  
Shikar, 9<sup>th</sup> Floor,  
Near Mithakhali Six Roads,  
Navrangpura,  
Ahmedabad- 380 009.

**Sub: 1980 MW (2x330 MW & 2x660 MW) TPP Phase-II at Mundra,  
District Kutchh, Gujarat by M/s Adani Power Ltd - Environmental  
Clearance regarding.**

The undersigned is directed to refer to your communication no. PP/APL/RKG/ENV/07/07 dated 26.12.2007 on the above mentioned subject. Subsequent information furnished vide letters no. PP/APL/ EC.II/18-03/08 dated 18.03.2007 and no. nil dated 27.06.2008 have also been considered.

2. It is noted that the proposal is for expansion of existing 2x330 MW power project by adding 1980 MW (2x330 MW & 2x660 MW) under Phase-II at Mundra, District Kutchh, Gujarat. The project is exempted from public hearing as the site is located in a notified SEZ for power. The total land requirement for phase-I and phase-II put together is 254.59 ha and the total land available with the project proponent is 293.88 ha. The coordinates of the project area are 22<sup>o</sup> 48' 35" – 22<sup>o</sup> 49' 51" N latitude and 69<sup>o</sup> 32' 53" - 69<sup>o</sup> 33' 51" E longitude. The total imported coal requirement for both the phases is stated to be 7.80 million TPA (for Ph-II 6.00 MTPA). Imported coal with sulphur content of 0.30% and ash content of 4.0% will be used as fuel. Coal will be imported through Mundra Port and from there by a straight through railway track with a provision of return of wagons through parallel track. The total water requirement for Phase-I and Phase-II put together is 23,500 m<sup>3</sup>/hr (16,298 m<sup>3</sup>/hr for Ph-II), which will be met from seawater to be drawn from Kotdi Creek through an open channel as per recommendations of NIO. The intake water structure and facilities, which were proposed for Phase-I would be sufficient to cater to the need of water for the total power project of Phase-I and Phase-II put together. It is proposed to release the

effluents through a pipeline diffuser of 190 m long having 20 number of ports with 31 cm. diameter each to a distance of 3.5 km into the sea at a depth of 4.5 m CD. No ecologically sensitive area such as National park, Wildlife Sanctuary etc is reported within 25 Km of the project area. Total cost of the project will be Rs 7866.00 crores, which includes Rs 340.00 crores for environmental protection measures.

3. The proposal has been considered and Ministry of Environment & Forests hereby accords environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions:-

- (i) The changes / modifications made in the scope of phase-I of the project should be get incorporated formally in the environmental clearance already granted.
- (ii) Prior CRZ clearance under the provisions of CRZ Notification, 1991 for the activities to be taken up in the CRZ area as applicable to this project, shall be obtained.
- (iii) Regular monitoring of the thermal discharges into the sea shall be carried out and records maintained. The temperature changes, if any, in the seawater within the impact zone due to the project shall be carried out. Based on the same, necessary safeguard measures as may be required to protect the aquatic flora and fauna shall be taken. It shall be ensured that discharge temperature does not exceed the prescribed limits of 7° C above the ambient temperature of receiving waters at any point of time.
- (iv) The recommendations made in the report of NIO relating to intake and outfall shall be implemented.
- (v) The sulphur content in the coal to be used both for phase-I and phase-II shall not exceed 0.3%.
- (vi) Appropriate measures shall be adopted to reduce the emissions of SO<sub>2</sub>. It shall also be ensured that at no point of time the ground level concentration of SO<sub>2</sub> in the impact zone exceeds the prescribed limit. The proponent shall also provide, now itself, adequate space for installation of FGD, if required at a later date.
- (vii) Continuous meteorological data shall be collected at site for at least three years. Based on the data so collected, air quality modelling prediction shall be carried out. The results so obtained shall be analyzed and based on the same, additional corrective measures as may be deemed necessary shall be taken.
- (viii) Two bi-flue stacks of 275 m height each for 2x330 MW and 2x660 MW units shall be provided with continuous online monitoring equipments for Sox, NOx and Particulate. Exit velocity of flue gases shall not be less than 22.27 m/sec for 2x330 MW stack and 22.97 m/sec for 2x660 MW units.
- (ix) High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>.

- (x) The seawater intake structure shall be so designed to ensure that the continuity of free flow of water in the two arms of Kotdi Creek is not hampered.
- (xi) It shall be ensured that the mangroves are not adversely affected due to the project.
- (xii) Cooling towers with closed cycle system shall be installed. COC of at least 1.5 shall be maintained.
- (xiii) Space provision shall be made for installation of FGD of requisite efficiency of removal of SO<sub>2</sub>, if required at later stage.
- (xiv) The total land requirement shall not exceed 254.59 ha for all the activities/facilities relating to Phase-I & Phase-II of the proposed power project.
- (xv) Rainwater harvesting should be adopted. Central Groundwater Authority/Board shall be consulted for finalization of appropriate rainwater harvesting structures within a period of three months from the date of clearance.
- (xvi) Fly ash shall be collected in dry form and its 100% utilization shall be ensured from the day of the commissioning of the plant. In case of emergency, the utilized ash may be disposed in the ash pond through High Concentration Slurry Disposal (HCSD) system and bottom ash in conventional slurry mode.
- (xvii) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of the these measures with full details along with plant layout location shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Bhopal.
- (xviii) Storage facilities for auxillary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the DMP. Sulphur content in the liquid fuel will not exceed 0.5%.
- (xix) Noise levels emanating from turbines shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non -noisy/less noisy areas.
- (xx) Regular monitoring of ground water quality including heavy metals shall be undertaken around ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.
- (xxi) A greenbelt shall be developed all around the plant boundary and ash dyke covering an area of at least 98.2 ha.
- (xxii) First aid and sanitation arrangements shall be made for the drivers and contract labour during construction phase.
- (xxiii) Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, Hg, SPM and

RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry.

- (xxiv) 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.
- (xxv) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.
- (xxvi) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
- (xxvii) Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/ Regional Office/CPCB/SPCB.
- (xxviii) Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.
- (xxix) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
- (xxx) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.
- (xxxi) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhopal /the CPCB/the SPCB who would be monitoring the compliance of environmental status.

4. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the

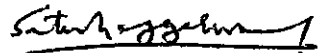
Ministry. MOEF may impose additional environmental conditions or modify the existing ones, if necessary.

5. The environmental clearance accorded shall be valid for a period of 5 years to start of production operations by the power plant.

6. In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

7. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

8. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

  
(Dr. S.K. AGGARWAL)  
DIRECTOR

**Copy to:-**

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001.
2. The Secretary, Environment & Forests Deptt., Government of Gujarat, Sachivalaya, 8<sup>th</sup> floor, Gandhi Nagar-382010 (Gujarat).
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhi Nagar-382010 - with a request to display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's office for 30 days.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. The Chief Conservator of Forests, Western Regional Office, Ministry of Environment & Forests, E- 5, Arera Colony, Link Road -3, Ravishankar Nagar, Bhopal-462016.
7. Director (EI), MOEF.
8. Guard file.
9. Monitoring file.

  
(Dr. S.K. AGGARWAL)  
DIRECTOR



**BY SPEED POST**

No. J- 13011/7/2007-IA-II (T)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan  
CGO Complex, Lodi Road  
New Delhi-110003

Dated: 13<sup>th</sup> August, 2007

To

M/s Adani Power Pvt. Ltd  
Shikar, 9<sup>th</sup> Floor  
Near Mithakhali six roads,  
Navrangpura,  
Ahmedabad- 380 009.

**Sub: 2x330 MW Imported Coal Based Thermal Power Project at  
Tunda, Kutchh, Gujarat by M/s Adani Power Pvt. Ltd -  
Environmental Clearance regarding.**

Sir,

The undersigned is directed to refer to your communication no. APPL/MOEF/07/01 dated 25.01.2007 on the above mentioned subject. Subsequent information furnished vide letters no. PP/APPL/RKG/ENV/03/07 dated 08.06.2007 and no. APL/DLI/MUNDRA/07-08/01 dated 17.7.2007 have also been considered.

2. It is noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994 for setting up of a 2x330 MW coal based power plant at Tunda, Mundra Taluka, Kutchh District, Gujarat. The site is located at 5.1 m above msl. The land requirement for this project is 228 ha which includes land for water reservoir (2.63 ha), MGR (52.85 ha), plant (63.6 ha), Green belt (88.2 ha), Brick Manufacturing (3.72 ha) and ash pond (17.00 ha). The coordinates of the project area are 22° 48' 35" N latitude and 69° 32' 53" E longitude. No agriculture land and no human settlements would be affected. The imported coal requirement is estimated as 6000 TPD, which will be received through Mundra Port and transported from port to the site by MGR rail system. The water requirement is estimated as 1,72,848 m<sup>3</sup>/day, which will be met from seawater. Desalination plant is proposed. No sensitive receptors are located within 10 km of the proposed site. The power plant site is reported to be out side CRZ area. Public hearing was held on 13<sup>th</sup> October, 2006. Total cost of the project will be Rs 2280.00 crores which includes Rs 100.00 crores for environmental protection measures.


3. The proposal has been considered in accordance with para 12 of the EIA Notification dated 14<sup>th</sup> September, 2006 read with para 2.2.1 (i) (a) of the Circular No. J-11013/41/2006-IA.II(I) dated 13.10.2006. Based on the recommendations of the Expert Appraisal Committee for Thermal Power and Coal Mine Projects, the Ministry of Environment & Forests hereby accords environmental clearance to the said project under the provisions of EIA Notification 2006, subject to implementation of the following terms and conditions:-

- (i) No activities in CRZ area will be taken up without prior requisite clearance under the provisions of the CRZ Notification, 1991.
- (ii) The seawater intake structure shall be so designed to ensure that the continuity of free flow of water in the two arms of Kotdi Creek is not hampered.
- (iii) The recommendations made in the NIO report shall be effectively implemented in the project cycle.
- (iv) It shall be ensured that the mangroves are not adversely affected due to the project.
- (v) The temperature of discharged water shall be continuously monitored to ensure that it does not exceed the prescribed limits of 7° C above the ambient temperature of receiving waters at any point of time.
- (vi) Space provision shall be made for installation of FGD of requisite efficiency of removal of SO<sub>2</sub>, if required at later stage.
- (vii) The total land requirement shall not exceed 228 for all the activities/ facilities relating to the proposed power project.
- (viii) Coal with ash content not exceeding 8% and sulphur content not exceeding 0.69% shall be used as fuel.
- (ix) Rain water harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rain water harvesting structures within a period of three months from the date of clearance.
- (x) A bi-flue stack of 220 m height with exit velocity of at least 22 m/s shall be provided with continuous online monitoring system.
- (xi) High efficiency Electrostatic Precipitator (ESPs) having efficiency of 99.9% shall be installed so as to ensure that particulate emissions do not exceed 100 mg/Nm<sup>3</sup>.

- (xii) Fly ash shall be collected in dry form and its 100% utilization shall be ensured from the day of the commissioning of the plant. In case of emergency, the utilized ash may be disposed in the ash pond through High Concentration Slurry Disposal (HCSD) system.
- (xiii) Regular monitoring of ground water quality including heavy metals shall be undertaken around ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.
- (xiv) Noise levels shall be limited to 75 dBA. For people working in the high noise area, protective devices such as earplugs etc. shall be provided.
- (xv) A greenbelt shall be developed all around the plant boundary and ash dyke covering an area of at least 88.2 ha.
- (xvi) First aid and sanitation arrangements shall be made for the drivers and contract labour during construction phase.
- (xvii) Regular monitoring of the air quality shall be carried out in and around the power plant and records shall be maintained. The location of the monitoring stations and frequency of monitoring shall be finalized in consultation with State Pollution Control Board. Six monthly report shall be submitted to this Ministry.
- (xviii) For controlling fugitive dust, regular sprinkling of water in coal handling area and other vulnerable areas of the plant shall be ensured.
- (xix) The project proponent should advertise within seven days of issue of environmental clearance, in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen in the Website of the Ministry of Environment and Forests in the <http://envfor.nic.in>.
- (xx) A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.
- (xxi) Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted to this Ministry, the Regional Office, CPCB and SPCB.
- (xxii) Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set

of documents including Environmental Impact Assessment Report, Environment Management Plan and the additional information / clarifications submitted to this ministry subsequently should be forwarded to the Regional Office for their use during monitoring.

- (xxiii) Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
- (xxiv) Full cooperation should be extended to the Scientists/Officers from the Ministry and its Regional Office at Bhopal / the CPCB / the SPCB during monitoring of the project.
4. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.
5. The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.
6. In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.
7. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

  
 (DR. S.K. AGGARWAL)  
 DIRECTOR

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**(Dr. S.K. AGGARWAL)**  
**DIRECTOR**