Sub: Expansion from 1320 MW to 3300 MW by addition of 3x860 MW Coal Based Thermal Power Plant in MIDC Industrial Area at village Tirola, in Gondia Distt., in Maharashtra - Reg. Environmental Clearance.

Sir,

The undersigned is directed to refer to letter dated 01.12.2009 and 7.1.2010 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 of the 2x860 MW (Phase-I) Coal Based TPP by addition of 3x860 MW. Environmental clearance for Phase-I (2x860 MW) was accorded on 29.05.2008. Land requirement for both the Phases will be restricted to only 402 ha, which is in MIDC notified industrial area. Tirola town is about 5.0 km from the site. Domestic coal from SECL will be used as fuel for 1x860 MW. For 2x860 MW units, imported coal from South Africa is proposed to be used. Ash and sulphur content in domestic coal to be used will be 34% and 0.5% respectively. Ash and sulphur content in imported coal will be 32% and 0.3% respectively. Domestic coal requirement for 1x860 MW will be 2.89 MTPA and for 2x860 MW imported coal requirement will be 2.72 MTPA (per unit). Total coal requirement will be 8.36 MTPA. Water requirement of 90 mcm/annum will be obtained from Wainganga river which flows at a distance of 5 km from the site. Allotment of 90 mcm/annum is in place. Nagzira wildlife sanctuary is located at a distance of 11.0 km from the site. Cost of the expansion project will be Rs. 9696.9 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 as at Para 2 above and others, 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 conditions:

(i) Only one unit of 1x660 MW shall be run on 100% domestic coal for which coal linkage from SECL is available and the other two units of 2x660 MW shall be run purely on imported coal, as per details in para 2.

(ii) Separate stacking arrangement shall be made for indigenous and imported coal.

(iii) In case source of fuel supply is to be changed at a later stage for the 2x660 MW the project proponent shall come back to the Ministry as the appraisal presently was done based on imported coal for 2x660 MW units.

A) Water and Waste Water Management

(iv) No ground water shall be extracted for use in operation of the power plant even in lean season.

(v) 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.

(vi) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.

(vii) Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quantity and quality is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.

(viii) Closed cycle cooling system with induced draft cooling towers shall be provided and COC of at least 5.5 shall be adopted.

(ix) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not do not get mixed.

(x) Effluent from the desalination plant shall be first treated in a guard pond before discharged, if applicable.

(xi) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
(xii) 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.

(xiii) 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.

B) Air Pollution Control

(xiv) Provision for installation of FGD shall be provided.

(xv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³.

(xvi) 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.

(xvii) Green Belt consisting of 3 tiers of plantations of native species around 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 Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 70 %.

(xviii) 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.

(C) Fly Ash Management

(xix) Utilisation of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
(xxi) 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.

(xxii) 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 front getting breached.

(xxiii) 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.

(xxiv) 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.

(D) Disaster Management

(xxv) 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.

(xxvi) 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.

(E) CSR/RCR Plan

(xxvii) A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months form the date of issue of this letter.

(xxviii) An amount of Rs 06.0 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs
13.20 Crore 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.

(xviii) 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.

(F) General

(xxi) 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.

(xxx) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.

(xxxi) 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.

(xxxii) 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.

(xxxii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the
The clearance letter shall also be put on the website of the Company by the proponent.

A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

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 pollutants levels namely SPM, RSPM (PM_{2.5} & PM_{10}), SO_{2}, NO_{x} (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.

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.

The environment 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 the Ministry by e-mail.

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.

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 upload the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.
(xi) 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.

(xii) 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.

(xiii) 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.


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.

[Signature]
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 Maharashtra.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110056.
4. The Chairman, Maharashtra Pradesh State Pollution Control Board, Kalpataru Point, 3rd & 4th Floors, Sion Matunga Scheme Road No. 6, Opp. cine Planet, Sion Circle, Sion (E), Mumbai – 400 022
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, Gondia District, Govt. of Maharashtra.
8. The Director (El), MOEF.

(LALIT KAPUR)
DIRECTOR
No. J-13011/4/2008-IA.II(T)
Government of India
Ministry of Environment & Forests

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

Dated: 29th May, 2008

To

M/s Adani Power Pvt. Ltd
Shikar, 9th Floor,
Near Mithakhali six roads,
Navagpura,
Ahmedabad-380 009 (Gujarat)

Sub: 2x660 MW Coal based Thermal Power Project at Tiroda, Maharashtra by M/s Adani Power Maharashtra Pvt. Ltd—Environmental Clearance regarding.

The undersigned is directed to refer to your communication no. APMPL: TIRODA/ENV/EIA dated 11.1.2008 regarding the subject mentioned above. Subsequent information furnished vide letter dt. 6.3.2008 and 21.3.2008 have also been considered.

2. It is noted that the proposal is for grant of environmental clearance for setting up of a 1320 MW (2x660 MW) coal based thermal power project at Tiroda, Maharashtra. The project is based on super critical technology. The land requirement is estimated as 210 ha (64.13 ha for plant, 51.07 ha for ash dyke, 18.50 ha for water reservoir, 69.64 ha for greenbelt and 6.66 ha for ash based Industry). No colony is proposed as part of this project. The coordinates of the project site are latitude 21° 24' 32.4" N and longitude 79° 57' 9.36” E. The coal requirement is estimated as 6.533 million TPA, which will be obtained from Lohara West & Lohara Extension mines located at a distance of 260 km and the fuel will be transported by rail. The water requirement is 36 MCM/year, which will be obtained from river Wainganga at a distance of about 5 km. No forestland is involved. However, protected forests are reported at a distance of 8 km from the site and some scheduled-I&II animals have also been reported. No ecologically sensitive area is reported within 10 Km radius of the plant boundary. Total cost of the project is Rs 4750.00 crores, which includes Rs 475.00 crores for
environmental protection measures. The proposal is exempt from public hearing because of its location in notified Industrial area.

3. The proposal has been considered and the 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 total land requirement for the project shall be restricted to 210 ha.
(ii) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.3% and 22.5% respectively.
(iii) A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for Sox, NOx and Particulate. Exit velocity of flue gases shall not be less than 22 m/sec.
(iv) High efficiency Electrostatic Precipitator (ESP) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm3.
(v) Space provision shall be kept for retrofitting of FGD, if required at a later date.
(vi) 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.
(vii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided and its utilization to the maximum extent shall be ensured. 100% fly ash utilization shall be ensured from 5th year onward. Unutilized fly ash shall be disposed off in the ash pond in the form of High Concentration Slurry and the bottom ash in conventional slurry mode.
(viii) Ash pond shall be lined with HDPE lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. Guard drains shall be provided all along the periphery of the ash dyke to avoid contamination of soil and surface water in case of run-off.
(ix) Water requirement shall not exceed 36 MCM/year. No ground water shall be extracted for this power project including during construction period.
(x) Closed cycle cooling system with cooling towers shall be provided. Cycle of concentration (COC) of at least 5.5 shall be adopted and the effluents treated as per the prescribed norms.
(xi) The treated effluents conforming to the prescribed standards shall be recirculated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangements shall be made that effluents and storm water do not get mixed.
(xii) A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.
(xiii) 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.

(xiv) Adequate safety measures shall be provided in the plant area to check/minimize
spontaneous fires in coal yard, especially during summer season. Details of
these measures along with the location plant layout shall be submitted to the
Ministry as well as to the Regional Office of the Ministry at Bhopal.

(xv) Storage facilities for liquid fuel such as LDO to be used as auxiliary fuel in the
project shall be made in the plant area where risk is minimum to the storage
facilities. Adequate arrangement of risk management shall be made in the
Disaster Management Plan for the same. Mock drills shall be conducted regularly
as plan. Necessary clearance as may be applicable to such storage under HSM
Rules shall be obtained.

(xvi) Regular monitoring of ground water in and around the ash pond area shall be
carried out, records maintained and periodic reports shall be furnished to the
Regional Office of this Ministry.

(xvii) A green belt of adequate width and density shall be developed around the plant
periphery covering at least 69.64 ha of project area preferably with local species.

(xviii) A plan for conservation of fauna reported in the study area shall be prepared in
consultation with State Forests and Wildlife Department within 3 months and
shall be implemented effectively.

(xix) First aid and sanitation arrangements shall be made for the drivers and other
contract workers during construction phase.

(xx) Leq of Noise levels emanating from gas and steam turbines shall be limited to 75
dBA. For people working in the high noise area, requisite personal protective
equipment like earplugs/ear muff etc. shall be provided. Workers engaged in
noisy areas such as steam & gas turbines 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 level concentration of SO₂, NOx, 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 (six monthly) shall be submitted to the Regional Office of this Ministry

(xxii) 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.
(xxiii) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

(xxiv) 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.

(xxv) 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.

(xxvi) 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.

(xxvii) 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.

(xxviii) 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.

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.

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

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001.
2. The Secretary, Department of Energy and Environment, Govt. of Maharashtra, Mantralaya, Mumbai-400032, Maharashtra.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K.Puram, New Delhi-110066.
4. The Chairman, Maharashtra Pollution Control Board, Kalptaru point 3rd & 4th Floor Sion Matunga Scheme Road No. 8, opp. Cine Planet Cinema, near Sion Circle, Sion(East), Mumbai-400022 - with 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.
7. Director (EI), MOEF

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