

# **SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE**

**2640 (4×660) MW DAHEJ THERMAL POWER PLANT**

At

**VILLAGE SUVA, VAGRA TALUKA,  
BHARUCH DISTRICT  
GUJARAT**

Submitted to:

**Western Regional Office  
Ministry of Environment & Forests,  
Central Pollution Control Board, New Delhi &  
Gujarat Pollution Control Board, Gandhinagar**

The logo for Adani, featuring the word "adani" in a lowercase, sans-serif font. The letters "a", "d", and "n" are blue, while "a", "n", and "i" are purple.

*Submitted By:*

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**PERIOD: April'2015 – September'2015**

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## ADANI POWER DAHEJ LIMITED

### Introduction

Adani Power Dahej Ltd. (APDL), a wholly owned company of Adani Power Limited, proposed to establish 2640 MW (4x660) Coal-based Supercritical Thermal Power Plant at Suva Village, Vagra Taluka, Bharuch District in Gujarat.

The project site is located in GIDC, Dahej near village Suva, Taluka Vagra, Bharuch District in Gujarat. The power plant is based on supercritical, energy efficient & environment friendly technology.

APDL has been granted Environmental Clearances & Consent to Establish from Ministry of Environment & Forest and Gujarat Pollution Control Board and APDL also obtained all necessary statutory / mandatory clearance respectively.

Adani, a conglomerate with a formidable presence in multiple businesses across the globe, has entered the power sector to harbinge a 'Power Full' India, by generating 20,000 MW of power by 2020. Comprehension of the criticality in meeting the power requirement and its crucial role in ensuring the energy security of India, spurs us to build India's largest and one of the world's top five single location thermal power plant in Mundra.

Along with thermal power generation, Adani power has made a paradigm shift by venturing into Solar Power generation in Gujarat. It is Adani's endeavour to empower one and all with clean, green power that is accessible and affordable for a faster and higher socio-economic development. Achieving it with out-of-the-box thinking, pioneering operational procedures, motivated team and a yen for trendsetting. Enthusiasm and energy has earned us accomplishments that make the First, Fastest and Largest power company in many aspects.

Adani Power Limited has commissioned the first supercritical 660 MW unit in the country. Mundra is also the World's First supercritical technology project to have received 'Clean Development Mechanism (CDM) Project' certification from United Nations Framework Convention on Climate Change (UNFCCC).

**The Thermal Power Project construction is yet to start, we have started some infrastructure development, boundary wall and some enabling works.**

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### Compliance status of Environmental Clearance 2640 (4x660) MW DAHEJ THERMAL POWER PLANT

Vide letter no: **J -13012/39/2009-IA.II (T) DATED: 25.10.2011**

S.N	Specific Conditions	Compliance Status
(i)	CRZ Clearance for permissible activities in CRZ area (as may be applicable) shall be obtained before starting construction activity.	Obtained, Vide letter no. – 11-35/2012-IA-III Dated -09.08.2012
(ii)	Prospective plan (vision document) for the site showing future expansion shall be formulated and submitted to the Ministry within six months	Complied Vision documents already submitted along with Compliance Report.
(iii)	The structure of the power plant shall be designed in such a way that it can withstand the impact of Tsunami or Cyclone.	Noted The structure has been designed based on highest tide FGL will be 12m above chart datum.
(iv)	In case source of fuel supply is to be changed at a later stage for the proposed 4x660 MW units now proposed to be run on imported coal from Indonesia and South Africa, the project proponent shall intimate the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change.	Noted Change in the source of fuel supply shall be intimated to the Ministry well in advance with necessary requisite documents.
(v)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.	Noted. Compliance assured
(vi)	Transportation of coal from Dahej Port to power plant site shall be by dedicated closed conveyor system.	Noted Compliance assured
(vii)	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 15 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary	Change in the source of fuel (Coal Quality) supply for proposed power plant will be intimated to the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change.
(viii)	Bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> and Particulate Matter (PM2.5 & PM10). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.	Two bi flue Stacks of 275 meter & Continuous Emission Monitoring System will be installed in all flues for SO <sub>2</sub> , NO <sub>x</sub> & PM. The designed flue gas velocity is more than 22 m/sec. Hg monitoring in stack will be carried out once in six month.
(ix)	NOC from the State Pollution Control Board shall be obtained.	Complied NOC already Obtained and submitted along with Compliance Report of Nov.'11 to March'2012.

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(x)	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.	There are no streams within the plant premises.
(xi)	COC of at least 1.5 shall be adopted.	This has been incorporated in the plant design and will be ensured during plant operation to maintain the COC more than 1.5.
(xii)	Intake shall be designed to ensure aggregation of fish and other marine creatures.	Intake channel is designed for flow rate of less than 2 m/s to ensure aggregation of fish and other marine creatures.
(xiii)	Continuous monitoring of marine biology shall be undertaken by an institute of repute. The marshy areas in the vicinity (if any) which may hold large quantities of water shall not be disturbed.	Noted Compliance assured
(xiv)	Transit storage (guard pond) shall be developed to ensure that cooling water discharge is done near about ambient temperature. Details shall be submitted to the Regional Office of the Ministry.	Compliance assured Guard pond will be established and differential temperature will be maintained and submitted to the Regional Office MoEF, Bhopal.
(xv)	A well designed rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Regional Office of Ministry.	Design for rain water harvesting scheme prepared by Geo Engineering Services, Vadodara, Gujarat and the report has been submitted along with compliance Report of April'12 to September'12 to Regional Office of CGWB, Ahmedabad & MoEF regional office, Bhopal for valuable suggestion & implementation.
(xvi)	There shall 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 before discharging in to the sea and surface RCC channels along the pipelines of outfall and intake should be adopted.	Noted. Intake channel will be lined from HTL to the plant intake pump house. Outfall will be through pipeline.
(xvii)	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.	The entire project area is almost flat. Hence chances for generation of top soil are negligible. There are no streams within the plant premises.
(xviii)	Space provision for installation of FGD shall be made.	Space has been provided for FGD in the project layout.
(xix)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm <sup>3</sup>	High efficiency Electrostatic Precipitators (ESP) will be installed in each boiler to meet PM emission of less than 50mg/Nm <sup>3</sup> .
(xx)	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such	Dust extraction system with Bag filter in Crusher House is proposed. Pneumatic

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	as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	ash handling system with bag filters for ash handling & water sprinkling system will be provided in Coal yard.
(xxi)	Utilisation of 100% Fly Ash generated shall be made from 4 <sup>th</sup> year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Ash utilization plan/schedule has been incorporated in the EIA report. Status of implementation shall be reported to the Regional office, MoEF regularly during plant operation.
(xxii)	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> Or. 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.	Noted. Compliance assured.
(xxiii)	Ash pond shall be lined with HDPE/LDPE 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.	Noted. Compliance assured.
(xxiv)	Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.	The crusher houses for coal shall be provided with dust extraction system & Bag Filters. Water sprinkling system will be provided in the coal stock yard.
(xxv)	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 boundaries, around village boundaries, ash dykes, railway lines, around protected monuments, forts, waste places, School Campuses and other vacant lots. Coconut plantations can be developed along the coastline and near villages, Schools 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.	Compliance assured.
(xxvi)	The project proponent shall not hamper the vocation of the fishing community in the area, (if any) and it shall be ensured that local fishing community shall be allowed to carry out their vocation.	Compliance assured. There is no fishing activity near the intake & outfall area.
(xxvii)	Aliabet Mangrove conservation and regeneration plan shall be formulated and implemented during the development of project itself and the status of implementation shall be submitted to the Regional Office of the Ministry from time to time. In addition about 100 ha in and around the area shall be developed into mangrove forests.	Compliance assured.
(xxviii)	In addition long term impact on Mangrove due to SO <sub>2</sub>	Compliance assured.

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	emission shall be carried out in due course and Report submitted to the regional Office of the Ministry.	
(xxix)	Green Belt consisting of three tiers of plantations of native species around plant and at least 75 m width shall be raised. Wherever 75 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 80 %	Compliance assured. Green belt development / plantation is being developed and our efforts are being made to develop more greenery in & around the plant with survival rate > 80%.
(xxx)	A common Green Endowment Fund shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.	Noted
(xxxii)	A Fishermen Endowment Welfare Fund shall also be created not only to enhance the quality of life of fishermen community 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.	Compliance assured.
(xxxiii)	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Being followed Social development activities being carried out under the CSR activities by Adani Foundation. Need based Assessment Study report already submitted along with first compliance report.
(xxxiv)	At least three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.	Noted. Compliance assured.
(xxxv)	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Being followed Social development activities being carried out for need base families under the CSR activities by our <b>Adani Foundation</b> . Need based Assessment Study report already submitted.
(xxxvi)	An amount of Rs 58.82 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 11.76 Crores per annum till the life of the plant 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.	A separate budget earmarked for CSR activities in Need based Assessment Study report and report already submitted to your good office
(xxxvii)	CSR scheme shall, be identified based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of	We have carried out a Need Based Assessment study for community development of nearby village. Study report has been already submitted.

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	CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training may also undertaken. Income generating projects consistent with the traditional skills of the people shall be undertaken. 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. Vocational training programme for possible self employment and jobs shall be imparted to identify villagers free of cost.	
(xxxvii)	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.	Compliance assured, once the project take off.
<b>General Conditions:</b>		
(i)	A Corporate Environmental Policy shall be formulated and after due approval of the Board of Directors of the Company shall be submitted to the Ministry within six months. The policy shall specifically address issues of adherence to environmental policy so formulated and environmental clearance conditions stipulated for the power project and also others including matters related to violations of stipulated conditions (if any) to the Board.	Compliance assured, once the project take off.
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Compliance assured.
(iii)	A well designed rainwater harvesting shall be constructed. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology, within-a period of three months from the date of issue of clearance and details shall be furnished to the Regional Office of the Ministry.	Design for rain water harvesting scheme is being prepared by Geo Engineering Services, Vadodara, Gujarat and the report already submitted to Regional Office of CGWB, Ahmedabad & MoEF regional office, Bhopal for valuable suggestion & implementation
(iv)	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.	Adequate safety measures will be established in the plant area. Detailed information /data will be submitted to MoEF.
(v)	Storage facilities for auxiliary liquid fuel such as LDO/ 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.	The LDO/HFO/LSHS will be properly stored in minimum risk area. A Disaster Management Plan will be prepared & Mock drills will be conducted periodically.



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(vi)	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 earned 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 clue to the project.	Regular monitoring of ground water quality including heavy metals will be carried out in and around the project area. Piezometric wells will be established around the ash pond. Records will be maintained and the same shall be submitted to Regional office of the Ministry at Bhopal.
(vii)	Monitoring surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Compliance assured, once the project take off.
(viii)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid centre / facility will be made available during construction phase.
(ix)	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/noise less areas.	Necessary action has been taken care in designed to maintain noise levels within 75 dBA. The working personnel will be provided with appropriate personnel protective equipment (PPE's) & periodic audiometric check up will be carried out during operation.
(x)	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM2.5 & PM10 and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels arc 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.	Compliance assured, once the project take off.
(xi)	Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche.etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Will be provided as required during construction
(xii)	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,	Complied Advertisement in Two Local News Papers, Gujarati & English, and Copy of advertisement already submitted along

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	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 <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	with first compliance report.
(xiii)	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.	Complied
(xiv)	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of The Cell shall directly report to the Head of the Organization. The status report on the functioning of the Cell shall be submitted to the Regional office of the Ministry periodically. The Cell shall comprise of an expert in Marine Biology, Fishery and Mangroves preservation.	We have established Environment Management Department with Senior Management at Corporate level. Site Env. Cell will be created once project construction is started.
(xv)	The proponent shall upload the status of compliance of the stipulated environmental clearance 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 (PM2.5 & PM10), SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) shall be displayed at convenient location near the main gate of the company in the public domain.	Six monthly compliance status report is regularly submitted to MoEF, CPCB & GPCB. The same is sent by email also. Compliance status updated on Company's website.  Compliance assured, once the project take off.
(xvi)	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 environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Compliance assured.
(xvii)	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	Six monthly compliance status report is regularly submitted to MoEF, CPCB & GPCB. The same is sent by email also. Compliance status updated on Company's website.  Last compliance report for the period of October'2014 to March'2015 had been submitted our vide letter no.: APL/APDL/EMD/EC/MoEF/142/05/15

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	e-mail to the Regional Office, Ministry of Environment and Forests.	Dated - 29/05/2015
(xviii)	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 reference during monitoring. Criteria pollutants levels including NO <sub>x</sub> (from stack & ambient air) shall be displayed at the main gate of the power plant.	Noted. Compliance assured.
(xix)	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.	Separate fund has been already allocated for Environmental protection. Fund for Environment management: Capital Cost: Rs. 700 Crores (Proposed) Recurring Cost: 7.00 Crores / year.
(xx)	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.	<b>Financial Closure yet to be achieved and Thermal Power Construction work yet to start.</b>
(xxi)	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.	Noted Full co-operation shall be extended all time.