



NABHA POWER LIMITED

o/c

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Ref: NPL/SB/MOEF/3015/3016

Dated: August 13, 2014

To,

Mr. Surendra Kumar
Director (S),
Government of India,
Ministry of Environment & Forests
Northern Regional Office,
Chandigarh-160030, Punjab

Sub: Compliance Status report of EC conditions

Ref: Your Letter No. 5-120/2008-RO (NZ)/2166 dated 14th Jun, 2011
Letter No. 5-120/2008-RO (NZ) dated 16th May, 2011
Letter No J-13011/44/3008-IA.II(T) dated 03rd Oct, 2008
Letter No J-13011/44/3008-IA.II(T) dated 15th Nov, 2010

Dear Sir,

With reference to the environmental clearance accorded to 2x700 MW Super Critical Thermal Power Plant, we are submitting herewith the compliance report of the same for your kind reference.

Thanking you,

Yours faithfully

For Nabha Power Limited

Authorized Signatory

- Encl.: 1. CTO copy (Air & Water)
2. Compliance status
3. Annexures

✓ Cc: Sr. Environmental Engineer, Punjab Pollution Control Board, Patiala.

Received by
Gandhi et al
13/8/14

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Wholly Owned Subsidiary of L&T Power Development Limited

Corporate Office: L&T House, N M Marg, Ballard Estate, Mumbai 400 001

Regd. Office: PO Box no. 28, Near Village Nalasn, Rajpura - 140401, Punjab



PUNJAB POLLUTION CONTROL BOARD
Zonal Office-I, Patiala

Website:- www.ppcb.gov.in

Industry ID:R13PTA422892

Date :17/04/2014

Application No :1099176

To

M/s Nabha power ltd.
Village - nalash
Rajpura
140401
Tehsil: Rajpura
District: Patiala

Subject:- Grant of consent to operate u/s 21 of Air(Prevention & Control of Pollution)Act, 1981 for discharge of emissions arising out of premises.

With reference to your application for consent to operate an industrial plant u/s 21 of Air(Prevention & Control of Pollution)Act, 1981, you are hereby, authorized by Punjab Pollution Control Board to operate an industrial plant for discharge the emissions arising out of your premises subject to the following conditions:

A. Particulars of the Industry

Name of the Applicant				Sh. Nabha power Ltd.	
Address of Industrial premises				Village - nalash	
Capital Investment of the Industry				960000.0 lakhs	
Scale of the Industry				Large	
Office District				Patiala	
Consent Fee Details				Rs. 60 lac vide R. no. 56/3520 dated 19/9/2013 & Rs. 60 lac vide R.no. UTIBH14070025176 dated 11/3/2014	
Fee For	Bank Name	Branch Name	Draft No./Money Receipt No.	Date	Amount (In Rupees)
Raw Material, name with quantity/per day				Coal @18744 Metric Tonnes/Day Water @88560 Kilo Liters/Day	
Products with quantity/per day				1400 MW of electric power from operation of unit-I & II of the power plant	
By-products, if any, with quantity/day				Fly ash @5100 Metric Tonnes/Day	

Details of the machinery and processes	As per application no. 1099176
Quantity of fuel required in TPD and capacity of boilers/ Furnace/ Thermo heater etc.	Coal @9372 Metric Tonnes/Day Coal @9372 Metric Tonnes/Day
Type of Air Pollution Control Devices installed	Electrostatic Precipitator, Electrostatic Precipitator,
Stack height provided with each boiler/thermo heater/ Furnace etc.	Main Stack @275(Ground Level)/190(Roof Level) D.G Stack @30(Ground Level)/3(Roof Level) Coal Crusher @48.25(Ground Level)/3(Roof Level) Coal Bunker @95.19(Ground Level)/13.06(Roof Level)
Sources of emissions and type of pollutants	Main Stack SO ₂ /NO _x /PM Coal Crusher House PM Coal Bunker PM D.G SO ₂ /NO _x /PM
Standards to be achieved	As per standards prescribed by the Board/MOEF

B. Particulars of Consent to Operate of the industry

No. R14PTACTOA1099176	Date of issue :17/04/2014
	Date of expiry :31/03/2015

A. MAIN CONDITIONS

- 1.(i) The industry will not commission the unit II of the power plant without completion of the ESP and other air pollution control measures. The industry shall submit the compliance report in this regard before start of its commercial activities.
- (ii) The industry shall submit compliance report of the conditions of NOC granted by the Board from pollution angle and the environmental clearance granted by the MoEF under the EIA notification dated 14/9/2006, to the Board, before the actual commissioning of the plant.
2. The industry shall provide the stack of adequate height with its fly ash silos along with sampling arrangements within one month.
3. The industry shall adhere to the timelines given for the completion of works related to Environment Pollution Control and shall submit monthly progress report of the same by 7th of each month.
4. The industry shall link the CCTV cameras with the Board's software by 30.04.2014.
5. The industry shall comply with all the conditions imposed in the environmental clearance granted by the Ministry of Environment & Forest, Govt. of India, New Delhi vide its letter no, J-13011/44/2008-IA.II(T) dated 3/10/2008 or to be imposed / amended in future.
6. The industry shall comply with the conditions imposed in the clearance of site granted to it by SCA-cum-SAC.
7. The industry will install online continuous monitoring system to monitor the stack emissions for various parameters as prescribed by MOEF.
8. The industry shall ensure that all fly ash/bottom ash/ coarse ash is used for different purposes as per the notification/guidelines issued by the MOEF from time to time for fly ash utilization.
9. The industry shall provide proper acoustic enclosure to all its machinery generating noise, so as comply with the standards of noise applicable for industrial area.
10. The industry will install adequate & appropriate water sprinkling system to suppress coal dust emissions in the coal handling plant and other places, before commissioning the plant.
11. The industry will complete the construction work of ash dykes, before commissioning of the plant.
12. The industry will install online monitor with the stack of 275 meter height to monitor the various parameters such as SPM, So₂ and No_x, by 20/4 2014.

13. The industry will install ambient air stations at suitable locations in consultation with the Regional Office of the Board at Patiala, before commissioning of plant.
14. The industry will ensure that the conc. of particulate matter in the stack emissions do not exceed 50 mg/Nm³.
15. The industry shall ensure that the sulphur and ash contents in the coal to be used in the boiler furnace shall not exceed 0.5% and 34% respectively. The industry shall submit complete compositional analysis of the fuel once in a six month every year.
16. The industry shall complete the plantation of green belt of adequate width and density around the plant periphery covering about 1/3 of the project area for plantation as per the action plan submitted by the Plant Authorities, by 30/06/2014.
17. The industry shall not consume any fuel except coal in the boiler furnace and HSD for DG sets for burning purposes without the prior written permission of the Board.
18. The industry shall install the separate energy meter for running air pollution control devices and monthly reading will be sent to the Board by fifth of the following month.
19. The industry shall provide online monitoring system with its stacks to monitor particulate matter, SO₂, NO_x.
20. The industry shall get its particulate matter in the emissions tested from Board's Laboratory / approved laboratory four times in a year and shall submit the analysis report to the Board.
21. The industry shall ensure that there will not be significant visible dust emissions beyond the property line.
22. This consent is valid upto 31/03/2015 only and the validity of the same would be extended after the industry complies with above said conditions.

B. GENERAL CONDITIONS

1. The industry will make arrangements that various pollutants in the air emissions in all three units remain within prescribed limits.
2. The industry shall apply for renewal of consent at least two months before expiry of the consent.
3. The industry shall comply with any other conditions laid down or directions issued in due course by the Board under the provisions of the Air (Prevention & Control of Pollution) Act, 1981.
4. The adequacy and efficacy of the air pollution control device will be the entire responsibility of the industry.
5. The industry shall ensure that no air pollution problem or public nuisance is created in the area due to discharge of emissions from the industry.
6. a) The industry shall discharge all gases through a stack of minimum height as specified in the standards laid down by the Board.
- b) Minimum stack height for diesel generating sets will be as follows:

Capacity of diesel generating set	Height of the Stack
0-50 KVA	Height of the building + 1.5m.
50-100 KVA	-do- + 2.0 m.
100-150 KVA	-do- + 2.5m.
150-200 KVA	-do- + 3.0m.
200-200 KVA	-do- + 3.5m.
250-300 KVA	-do- + 3.5m.

For higher KVA rating stack height H (in meter) shall be worked out according to the formula:

$$H = h + 0.2 (KVA)^{0.5}$$

Where h = height of the building in meters where the generator set is installed.

7. The industry shall provide port-holes, platforms and/or other necessary facilities as may be required for collecting the samples of emissions from any chimney, flue or duct or any other outlets.

Specifications of the port-holes shall be as under:-

i) The sampling ports shall be provided at least 8 times chimney diameter down stream and 2 times up stream from the flow disturbance. For a rectangular cross section the equivalent diameter (D_e) shall be calculated from the following equation to determine upstream, downstream distance:-

$$D_e = 2LW / L+W$$

Where L=Length in mts. W=Width in mts.

ii) The sampling port shall be 7 to 10 cm in diameter.

8. Nothing in this consent shall be deemed to preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected to under this or any other Act.

9. Any amendments/revisions made by the Board in the emission/stack height standards shall be applicable to the industry from the date of such amendments/revisions.

10. The existing control equipment shall be altered or replaced in accordance with the direction of the Board, and no control equipment or chimney shall be altered or as the case may be erected or re-erected except with the prior approval of the Board.

11. The industry shall not discharge any fugitive emissions. All gases shall be emitted through a stack of suitable height, as per the norms fixed by the Board from time to time.

12. The air pollution control equipments shall be kept at all time in good running condition and;

i. All failures of control equipments.

ii. The emissions of any air pollutant into the atmosphere in excess of the standards laid down by the Board occurring or being apprehended to occur due to accident or other unforeseen act or event.

iii. "Shall be intimated telegraphically to the Environmental Engineer, Regional Office, Patiala as well as to the Director of Industries, Punjab Chandigarh as required under rule 10 of the Punjab State Board for the Prevention and Control of Air Pollution Rules, 1983".

13. The industry shall maintain the following record to the satisfaction of the Board.

a) Logbooks for running of air pollution control devices or pumps/motors used for running of the same.

b) Register showing the results of various tests conducted by the industry for monitoring of stack emission and ambient air.

c) Register showing the stock of absorbents and other chemicals to be used for scrubbers.

14. The industry shall provide adequate arrangements for fighting the accident leakages/discharge of any air pollution /gas/liquids/from the vessel, mechanical equipments etc. which are likely to cause environmental pollution.

15. The adequacy and efficacy of the air pollution control devices will be the entire responsibility of the industry.

16. The industry shall submit an obtain cover under the Public Liability Insurance Act, 1991.

17. The industry shall submit an site emergency plan approved by the Chief Inspector of Factories, Punjab.

18. The industry shall obtain authorization under the Hazardous Waste Management Rules, 1989, if applicable.

19. The industry shall submit a certificate yearly to the effect that no addition / modification has been carried out during the previous year.

20. The air pollution control device shall be interlocked with the main manufacturing process of the industry.

21. The industry shall put up display board in the prescribed format giving details about pollution load at main entrance gate.

22. The Board reserves the right to revoke the consent granted to the industry at any time, if the information or documents submitted by industry are found wrong at some later stage or the industry is found violating the provisions

*Nabha power ltd, Village - nalash,
Rajpura, Patiala*

of the Air (Prevention & Control of Pollution) Act, 1981.

For & on behalf of
Pb. Pollution Control Board

Endst. No. _____ Dated _____

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala for information & necessary action.

For & on behalf of
Pb. Pollution Control Board

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PUNJAB POLLUTION CONTROL BOARD
Zonal Office-I, Patiala

Website:- www.ppcb.gov.in

Industry ID:R13PTA422892

Date :17/04/2014

Application No :1099578

To

M/s Nabha power Ltd.
Village - nalash
Rajpura
140401
Tehsil: Rajpura
District: Patiala

Subject:- Grant of consent to Operate an outlet u/s 25/26 of Water(Prevention & Control of Pollution)Act, 1974 for discharge of effluent.

With reference to your application for consent to operate an outlet for discharge of the effluent u/s 25/26 of Water(Prevention & Control of Pollution)Act, 1974, you are, hereby, authorized by the Board to discharge the effluent(s) arising out of your premises at Village - nalash subject to the following conditions:

A. Particulars of the Industry

Name of the Applicant	Nabha power Ltd.			
Address of industrial premises	Village - nalash			
Capital investment of the industry	960000.0 lakhs			
Scale of the industry	Large			
Office District	Patiala			
Consent Fee Details	Rs. 60 lac vide R. no. 55/3520 dated 19/9/2013 & Rs. 60 lac vide R.no. UTIBH14070024618 dated 11/03/2014			
Bank Name	Branch Name	Draft No./Money Receipt No.	Date	Rupees
AXIS BANK	RAJPURA	14070024618	11/03/2014	6000000.0
AXIS BANK	RAJPURA	14073033334	14/03/2014	500.0
Raw Materials,name with quantity per day	Coal @18744 Metric Tonnes/Day Water @88560 Kilo Liters/Day			
Products with quantity per day	1400 MW of electric power from operation of unit-I & II of the power plant			
By-Products, if any, with quantity per day	Fly ash @5100 Metric Tonnes/Day			

Details of the machinery and processes	As per application no. 1099578
Details of the Effluent Treatment Plant	Trade Effluent @ 12768.0 KLD Domestic Effluent @ 48.0 KLD
Mode of Disposal	Trade effluent:- Reused for bottom ash conveyance to ash dykes and dust suppression purpose in coal handling area and partly for makeup water in cooling towers after treatment in ETP. Domestic effluent:- Onto land for plantation after treatment in STP
Standards to be achieved	As per standards prescribed by the Board/MOEF

B. Particulars of Consent to Operate granted to the industry

No.R14PTACTOW1099578	Date of issue :17/04/2014
	Date of expiry :31/03/2015

C. Main Conditions:

1. The consent is issued for the discharge of effluents as per details given below from the premises of the industry through the out-let(s) authorized by the Board:-

Sr. No Description Quantity Mode of final disposal

- (i) Trade Effluent 12768 KLD Reused for bottom ash conveyance to ash dykes and dust suppression purpose in coal handling area and partly for makeup water in cooling towers after treatment in ETP.
(ii) Domestic Effluent 48 KLD Onto land for plantation after treatment in STP

2. (i) The industry shall not discharge its trade effluent anywhere & entire treated trade effluent shall be reused for bottom ash conveyance to ash dykes and dust suppression purpose in coal handling area and partly for makeup water in cooling towers after treatment in ETP.
(ii) The industry will not commission the unit II of the power plant without completion of the ESP and other water pollution control measures. The industry shall submit the compliance report in this regard before start of its commercial activities.
(iii) The industry shall submit compliance report of the conditions of NOC granted by the Board from pollution angle and the environmental clearance granted by the MoEF under the EIA notification dated 14/9/2006, to the Board, before the actual commissioning of the plant.
3. The industry shall adhere to the timelines given for the completion of works related to Environment Pollution Control and shall submit monthly progress report of the same by 7th of each month.
4. The industry shall link the CCTV cameras with the Board's software by 30.04.2014.
5. The industry shall dispose off the treated domestic effluent onto land for irrigation/ plantation purposes inside the industrial premises and same shall not be discharged outside the plant boundary. The industry shall make arrangements to ensure that the trade or domestic effluents and storm water do not get mixed.
6. The industry will install adequate & appropriate water sprinkling system in the coal handling plant to suppress the coal dust emissions, before commissioning of the unit.
7. The industry will complete & commission the ETP as well as STP before commissioning of the plant.

8. The industry shall complete the plantation of green belt of adequate width and density around the plant periphery covering 1/3 of the project area for plantation as per the action plan submitted by the industry in this regard, by 30/06/2014.
9. The industry shall submit detailed performance study of its pollution control devices within 3 months of the commissioning of the plant.
10. The industry shall discharge its domestic effluent onto land for plantation after proper treatment in the STP.
11. The industry shall install online monitors for continuous monitoring of pH, conductivity & DO in the trade effluents to be discharged and maintain record of the same.
12. i) The industry shall re-circulate the entire cooling water and shall operate and maintain the re-circulation system properly and regularly.
ii) The blow downs of cooling towers, boilers, D.M reject, R.O reject etc will be used for ash conveyance system only.
13. The industry shall for the purpose of measuring and recording the quantity of water consumed & effluent discharged, affix electromagnetic/ultrasonic flow meters of such standards & at such places as approved by the Board.
14. The industry shall obtain the Authorization under the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 as amended in 2000.
15. The industry shall obtain permission from the Competent Authority of the State for meeting with the water requirements from the canal system.
16. The industry shall comply with all the conditions imposed in the environmental clearance granted by the Ministry of Environment & Forest, Govt. of India, New Delhi vide its letter no, J-13011/44/2008-IA.II(T) dated 3/10/2008 or to be imposed / amended in future.
17. The industry will not install any coal washer within the premises without prior written permission from the concerned departments.
18. The industry shall ensure that all fly ash/bottom ash/ coarse ash is used for different purposes as per the notification/guidelines issued by the MOEF from time to time for fly ash utilization.
19. The industry shall not discharge its effluent into any choe, drain or river, directly or indirectly, under any circumstances.
20. The industry shall comply with the conditions imposed in the clearance of site granted to it by SCA-cum-SAC before the commissioning of the plant in full capacity.
21. The industry will install piezometers at different locations along its premises for assessment of ground water quality in consultation with the Regional Office of the Board at Patiala.

D. General Conditions:

1. The industry shall make proper disposal of the effluent so as to ensure that no stagnation occurs inside and outside the industrial premises during rainy season and no demand period.
2. The industry shall ensure that no water pollution problem is created in the area due to discharge of effluent from its industrial premises.
3. The effluent discharged through the authorized outlet shall conform to the standards prescribed by the Board as per Board's Notification, issued from time to time for such discharges.
4. The industry shall comply with following stipulations :
 - i. The industry shall apply for renewal of consent at least two months before expiry of the consent.
 - ii. The issuance of this consent does not convey any property right in either real or personal property, or any

exclusive privileges, nor it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State or Local Laws or Regulations.

iii. The consent does not authorize or approve the construction of any physical structures or facilities for undertaking of any work in any natural watercourse.

iv. Nothing in this consent shall be deemed to preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected under this or any other Act.

v. During the period beginning from the date of issuance and the date of expiration of this consent, the applicant shall not discharge floating solids or visible foam.

5. Any amendments/revisions made by the Board in the tolerance limits for discharges shall be applicable to the industry from the date of such amendments/revisions.

6. The authorized outlet and mode of disposal shall not be changed without the prior written permission of the Board.

7. The industry shall not use any unauthorized out-let(s) for discharging effluents from its premises.

8. The industry shall not change or alter the manufacturing process (es) so as to change the quality and/or quantity of the effluents generated without the written permission of the Board.

9. Any upset conditions in the plant/plants of the factory, which is likely to result in increased effluent and/or result in violation of the standards laid down by the Board shall be reported to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala through fax under intimation to the Board failing which any stoppage and upset conditions that come to the notice of the Board/its officers, will be deemed to be intentional violation of the conditions of Consent.

10. All underground water retaining structures shall be lined with an impervious layer so as to avoid seepage and contamination of sub-soil/water.

11. The industry shall provide terminal manhole (s) at the end of each collection system and a manhole upstream of final outlet (s) out of the premises of the industry for measurement of flow and for taking samples.

12. The diversion or bye pass of any discharge from facilities utilized by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except,

(i) Where unavoidable to prevent loss of life or some property damage or

(ii) Where excessive storm drainage or run off would damage facilities necessary for compliance with terms and conditions of this consent. The applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass in accordance with the procedure specified above.

13. Solids, sludge's, filter backwash or other pollutant removed from or resulting from treatment or control of wastewaters shall be disposed off in such a manner as to prevent from any pollutants from such materials from entering natural water.

14. The industry shall submit balance sheet at the end of each financial year regarding its gross fix assets to the Environmental Engineer, Regional Office, Patiala.

15. The industry shall regularly operate and maintain its effluent treatment plant to ensure that the treated trade effluent conforms to the standards laid down by the Board for such type of industry / discharges.

16. The industry will get its effluent samples analyzed from Board's lab/ approved lab, four times in a year as per policy of the Board and submit analysis reports, accordingly to the Board time to time.

17. The industry shall ensure that effluent discharged by it is toxicity free

18. The industry shall not irrigate the vegetables crops with the treated effluents which are used / consumed

as raw.

19. The industry will submit environment statement by 30th September every year as required under the Environment (Protection) Act, 1986.

20. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of re-circulation system / effluent treatment plant and during no demand period.

21. The industry shall install separate energy meter for running of effluent treatment plant / re-circulation system and monthly report be sent to the Board by the fifth of the following months.

22. The pollution control devices shall be interlocked with the manufacturing process of the industry.

23. The industry shall put up display board in the prescribed format giving details about pollution load at main entrance gate.

24. The industry shall submit an obtain cover under the Public Liability Insurance Act, 1991.

25. This consent is valid upto 31/03/2015 only and the validity of the same would be extended after the industry complies with above said conditions.

26. The Board reserves the right to revoke the consent granted to the industry at any time in case the industry is found violating any of the conditions of the consent under Water Act, 1974 as amended time to time.

For & on behalf of

Pb. Pollution Control Board

Endst. No. _____ Dated _____

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala for information & necessary action.

For & on behalf of

Pb. Pollution Control Board

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COMPLIANCE STATUS OF MOEF CONDITIONS FOR 1400MW

S. No.	MOEF Conditions	Compliance Status
1.	The total land requirement for the project shall be restricted to 1278 acres.	The land requirement for 1400 MW has been restricted within 1278 acres only.
2.	Prior clearance from the competent authority shall be obtained for locating the proposed power plant in proximity (about 3 kms) of the defence installation. A copy of the same shall be furnished to the ministry and the regional office of this ministry within one month from the date of issue of this clearance letter.	NOC from Ministry of defence & AAI obtained on 25 th May,2009, Ref No. :No.21(7)/2008/D(Coord) & 22 nd July,2008, Ref No.: No. AAI/20012/664/2008-ARI(NOC) respectively.
3.	Sulphur & ash contents in the coal to be used in the project shall not exceed 0.5% & 34%.	Letter of Assurance (LOA) issued by SECL for Grade F coal on 11.12.2008 SECL/BSP/S&M/COMML/359/NPL/TPS(LOA)/3515.Sulphur & ash contents in the coal being used in the power generation is restricted below 0.5% & 34%.
4.	A bi-flue stack of height 275 m shall be provided with continuous online monitoring equipments for SOx, NOx & particulate matter. Exit velocity of flue gas should not be less than 25 m/sec.	Stack (275mtr.) has been Constructed and both CEMS are in operation. The exit velocity of flue gas from both the flue canes is more than 25 m/sec.
5.	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure particulate emission doesn't exceed 50 mg/m ³ .	Both ESP'S attached to Boilers have efficiency of 99.9% and the outlet SPM emission is < 50 mg/Nm ³ .
6.	Space provision shall be kept for retrofitting for FGD, if required at later date.	Space provision for FGD has been earmarked.
7.	Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	The Dust extraction system & Dust suppression system (water sprinklers) are in operation in the coal handling area.
8.	Fly ash to be collected in dry form in storage facility (silos) shall be provided. 100% utilization of fly ash shall be achieved from day one. Unutilized fly ash in emergency and bottom ash shall be disposed in ash pond and bottom ash in conventional slurry mode. Mercury and other heavy metals (Hg,Cr,Pb etc.) will be monitored in bottom ash and fly ash as also in the effluent emanating from ash pond.	Fly Ash Silos construction work is completed. Fly ash is being sent to Cement Plants and bottom ash is getting disposed in ash pond in slurry mode. Mercury and other heavy metals will be monitored both in bottom ash and flyash and the analysis reports shall be submitted to MOEF by 31.08.2014. <i>(Attached)</i>
9.	Ash pond shall be lined with HDPE lining. Adequate safety measures shall also be implemented to protect ash dyke from getting breached.	Ash Pond beds are provided with HDPE lining (500 micron thick) over 50 mm thick sand cushion and top of HDPE liner is protected with 300 mm earth cover.

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10.	Closed cycle cooling system with cooling towers shall be provided. Effluents shall be treated as per the prescribed norms.	Natural Draft Cooling Towers 1 & 2 are in operation and blow down from them is being sent to common monitoring basin (CMB) and finally used for ash conveying to the ash dyke.
11.	The treated effluents confirming to the prescribed standard shall be recirculated and reused within the plant. There shall be no discharge outside the plant boundary except during Monsoon. Arrangement shall be made that effluent & storm water do not get mix.	Zero Discharge is being maintained at Plant. The total effluent generated is being used for conveyance of the bottom ash to the ash dyke. There is no discharge outside the plant boundary.
12.	A Sewage Treatment Plant shall be provided and treated sewage shall be used for raising green belt/plantation.	The Sewage treatment plant is under operation and the treated waste water is utilized for plantation purpose.
13.	Rain water harvesting should be adopted. Central Ground Water Authority/board shall be consulted for finalization of appropriate rain water harvesting technology with in a period of three months from the date of clearance and details shall be furnished.	The construction of rain water harvesting pit as per the approved plan is completed as per rain water harvesting scheme approved by CGWA as per letter dated 05.12.2012 No. 4(156)PB/NWR/SD&I/2011 – 3041.
14.	Adequate safety measures shall be provided in plant area to check/minimize spontaneous fire 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 at Chandigarh.	The safety measures adopted to check/minimize spontaneous fire in coal yard has been implemented at site.
15.	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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of project.	Adequate arrangements have been made for the construction labour such as toilets, STP, safe drinking water, medical health care etc.
16.	Storage facilities for liquid fuel such as LDO and HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. On site and off site 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, modification required, if any shall be incorporated in the DMP.	The necessary license for storage of LDO/HFO has been taken from CCOE and is attached as Annexure 1. On site emergency plan has been prepared and its testing shall be carried out regularly thru mock drills.
17.	Regular monitoring of ground water in and around ash pond area shall be carried out, records maintained and six monthly reports shall be furnished to Regional Office, Chandigarh.	Piezometers has been installed around ash pond areas. The analysis of the ground water is being done at 3 locations. Reports are attached herewith with the compliance status as Annexure 2
18.	A green belt of adequate width and density shall be developed around plant periphery covering about 1/3 rd of project area preferably with local species.	Green belt of suitable width and density with local species is in progress and more than 1.50 Lakhs plants have been planted till now. Drawing of the Green Belt Plantation status is attached herewith as Annexure 3

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19.	Activities under CSR shall be enhanced with proper financial allocation. Details of these activities shall be submitted to the Regional Office of the Ministry, SPCB and the Ministry.	The management demonstrates its intention & commitment towards socio-economic development by providing various facilities to the nearby villages.
20.	First aid & sanitation arrangement shall be made for the drivers and other contract workers during construction phase.	First aid center & adequate sanitation arrangement for the drivers and other contract workers is in place.
21.	Noise level emanating from turbines shall be limited to 75 dB (A). For people working in the high noise area, requisite personal protective equipment like Earplug/ear muffs etc. shall be provided. Workers engaged in noisy area such as turbine area, air compressors etc. shall be periodically examined to maintain audiometry record and for any hearing loss including shifting to non-noisy/less noisy areas.	The Noise levels shall be maintained well below the prescribed standards. PPE's are being provided to all the workers depending upon the task being performed. Medical examination of the workers engaged in high noise area shall be examined on period basis.
22.	Regular monitoring of ground level concentration of SO ₂ , NO _x , SPM, RSPM and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of the monitoring shall be decided in consultation with SPCB. Periodic report to be submitted to Regional office of this Ministry.	Regular Monitoring of Ambient Air Quality is being carried out at the locations specified by Regional Officer, Punjab Pollution Control Board and records being maintained. Reports are being attached herewith as Annexure 4
23.	The project proponent shall advertise in two local newspaper widely circulated in the region around the project, one of which shall be in the vernacular language of the locality/Municipal area/Gram Panchayat concerned and on the company's website within seven days from the date of clearance letter, informing that the project has been accorded environment 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 .	Complied
24.	A separate Environment Management Cell with qualified staff to be set up for implementation of the stipulated environmental safeguards.	Refer Annexure 5.
25.	Half yearly report on status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/Regional Office/CPCB/SPCB.	This is being complied on regular basis.

Bani

26.	Regional office of the Ministry of Environment & Forests located at Chandigarh will monitor implementation of stipulated conditions. A complete set of documents including EIA report & EMP report alongwith additional information submitted from time to time shall be forwarded to the regional office for their use during monitoring.	This is being complied on regular basis.
27.	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 project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes & year wise expenditure should be reported to Ministry.	Agreed & Complied Refer Annexure 6
28.	The project authorities shall inform the regional office as well as the Ministry regarding the date of financial closure and final approval of project by concerned authorities and the dates of start of land development work and commissioning of plant.	Date of commercial operations of plant Unit 1 (700 MW) – 1.02.2014 Unit 2 (700 MW) – 10.07.2014
29.	Full co-operation should be extended to the scientists/officers from the Ministry/Regional office of the Ministry at Chandigarh/the CPCB/the SPCB who would be monitoring compliance of environmental status.	The NPL is providing full co-operation to the scientists/officers from the Ministry/Regional office of the Ministry at Chandigarh/the CPCB/the SPCB who are monitoring compliance of environmental status, time to time.
30.	No additional coal consumption beyond 5.8 MTPA (at 85 % PLF) earlier envisaged for 2 x 660 MW and no additional land for the enhanced capacity shall be permitted.	Being Complied.
31.	The project proponent shall upload the status of compliance of the conditions stipulated in the environmental clearance issued vide Ministry's letter of even no. dated 03.10.2008, in its website and update periodically and also simultaneously send the same by email to regional office of Ministry of Environment and Forests.	NPL website is live & the compliance reports & Monthly Environment Monitoring Reports are uploaded periodically on website. Website address : http://www.intnabhapower.com
32.	Critical pollutants levels including NOx, RPSM ₁₀ and 2.5, SO ₂ shall be regularly monitored and results displayed in your website and also at main gate of the power plant.	Complied and results being displayed at the main gate and is uploaded periodically on the website of NPL.

Envi



Government of India
Ministry of Commerce & Industry
Petroleum & Explosives Safety Organisation (PESO)
5th Floor, A-Block, CGO Complex, Seminary Hills,
Nagpur - 440005



E-mail : explosives@explosives.gov.in
Phone/Fax No. 0712-2510248, Fax-2510577

No. PIHQ/PB/15/1976 (P294026)

Dated : 14/06/2013

To,
M/s Nabha Power Limited,
Sector 26D Madhya Marg,
CHANDIGARH,
CHANDIGARH,
District: CHANDIGARH,
State: Chandigarh
PIN: 160019

Sub : Petroleum Class C Installation at Plot No. 398,399,401,402, NA, Surai Khurd, District: PATIALA, State: Punjab, PIN: 999999 Grant of License regarding.

Sir(s),

Please refer to your letter No. NPL/SKN/CCOE/2072 dated 08/06/2013

Licence No. PIHQ/PB/15/1976 (P294026) dated 14/06/2013 granted in Form XV under the Petroleum Rules, 2002 and valid till 31/12/2022 for the storage of the following kinds and quantities of Petroleum at the subject installation is forwarded herewith.

Description of Petroleum	Quantity licenced in KL
Petroleum Class A in bulk	NIL
Petroleum Class A, otherwise than in bulk	NIL
Petroleum Class B in bulk	NIL
Petroleum Class B, otherwise than in bulk	NIL
Petroleum Class C in bulk	5270.00 KL
Petroleum Class C, otherwise than in bulk	NIL
Total Capacity	5270.00 KL

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to Dy. Chief Controller of Explosives, Chandigarh, so as to reach his office on or before the date on which Licence expires.

This approval/permission, however, does not absolve from obtaining necessary permission/clearance from other authorities or under other statutes as applicable.

Yours faithfully,

(T R Thomas)
Chief Controller of Explosives
Nagpur

Copy forwarded to :-

1. The District Magistrate, PATIALA (Punjab) with reference to his NOC No 445 Dated 02/05/2013
2. Jt. Chief Controller of Explosives, North Circle, FARIDABAD. A Copy of the licence along with approved plan is enclosed.
3. Dy. Chief Controller of Explosives, Chandigarh. A Copy of the licence along with approved plan is enclosed.

Chief Controller of Explosives
Nagpur

Licence No. P/HQ/PB/15/1978 (P294026)

SPACE FOR ENDORSEMENT OF RENEWALS

This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence

Date of
Renewal

Date of
Expiry of licence

Signature and office stamp of the
licencing authority

This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.



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Environment Due-diligence, Monitoring and Analysis Services
ISO-14001:2004 OHSAS-18001:2007 CIN : U74140PB2011PTC034739

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PPCB-Ref. No. Lab/3238892
Dated -30.09.2011

TEST REPORT

NABL-T-1775C

EL-14-15/737	dt: 21/07/14	Lab No.	EL030714NW07	Page-1/2
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab			
Type of Sample:	Ground Water			
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14			
Packing, Markings, Seal:	Plastic Bottle Marked 'T'			
Quantity:	2 litre			
Mode of Collection of Sample:	Sampling by Laboratory			
Sampling Location:	Frm Peizometer No. 1 (Near TP2)			
Date of Sampling:	03.07.14			
Sampling Protocol:	IS: 3025-(P-1)-1987-R-1998 Amdt-1			
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas			
Date of Receipt of Sample:	03.07.14			
Date of Reporting:	11.07.14			
Testing Protocol:	IS: 10500-2012			
Remarks & Observation:	Clear colourless liquid			

S.No	Test Parameters	Units	Results	Requirements		Test Method
				Desirable Limits	In Absence of Alternate Source	
1.	Colour	--	< 5	Max 5	Max 15	APHA-22nd Ed 2012-2129 B Visual Comparison (Pt Cobalt) Method
2.	Total Dissolved solids	mg/l	370	Max 500	Max 2000	APHA-22nd Ed 2012- 2510C
3.	Solids (Suspended)	mg/l	10	--	--	APHA-22nd Ed 2012- 2546 D
4.	Mercury (as Hg)	mg/l	BDL	Max 0.001	No relaxation	APHA-22nd Ed 2005-3112B (DL - 0.0009 mg/l)
5.	pH value	--	7.70	6.5 to 8.5	No relaxation	APHA-22nd Ed 2012-4500B
6.	Total Arsenic (as As)	mg/l	BDL	Max 0.01	Max 0.05	APHA-22nd Ed 2012-3111C Hydride Generation (DL - 0.1 mg/l)
7.	Lead (as Pb)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012-3111C Ext A-Ac Flame AAS Method (DL - 0.009 mg/l)
8.	Total Chromium (as Cr)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012-3111C Ext A-Ac Chrom AAS Method (DL - 0.05 mg/l)

Note: BDL - Below Detection Limit; DL - Detection Limit

Technical Manager

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TEST REPORT

PPCB-Ref. No. Lab/3238892

NABL-1-17750

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EL-14-15/940 *dt: 21/07/14* Lab No. EL030714NW08

Customer: Nabha Power Ltd.
 P.O Box No. 28, Near Vill. Nalash
 Dist. Patiala, Rajpura, Punjab

Type of Sample: Ground Water
 Work Order No. & Date: P.O No. NPI/47000-00878 dated 01.03.14
 Packing, Markings, Seal: Plastic Bottle Marked '2'
 Quantity: 2 litre
 Mode of Collection of Sample: Sampling by Laboratory
 Sampling Location: From Peizometer No. 2 (Near Sump 1)
 Date of Sampling: 03.07.14
 Sampling Protocol: IS: 3025-(P-1)-1987-R-1998 Amdt-1
 Sampling Team: Lab Representative: Mr. Jasbir Singh & Team
 Customer Representative: Mr. Vikas

Date of Receipt of Sample: 03.07.14
 Date of Reporting: 11.07.14
 Testing Protocol: IS: 10500-2012
 Remarks & Observation: Clear colourless liquid

S.No	Test Parameters	Units	Results	Requirements		Test Method
				Desirable Limits	In Absence of Alternate Source	
1.	Colour	--	< 5	Max 5	Max 15	APHA-22nd Ed 2012:2120 B Visual Comparison (Pt Cobalt) Method
2.	Total Dissolved solids	mg/l	350	Max 500	Max 2000	APHA-22nd Ed 2012: 2540 C
3.	Solids (Suspended)	mg/l	13	--	--	APHA-22nd Ed 2012: 2540 D
4.	Mercury (as Hg)	mg/l	BDL	Max 0.001	No relaxation	APHA-22nd Ed 2012: 8126 (DI = 0.0009 mg/l)
5.	pH value	--	7.46	6.5 to 8.5	No relaxation	APHA-22nd Ed 2012: 8110
6.	Total Arsenic (as As)	mg/l	BDL	Max 0.01	Max 0.05	APHA-22nd Ed 2012: 8111 Hydride Generation (DI = 0.1 mg/l)
7.	Lead (as Pb)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012: 8110 Lead-Ac Fluoride AS Method (DI = 0.005 mg/l)
8.	Total Chromium (as Cr)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012: 8113 Lead-Ac Fluoride AS Method (DI = 0.005 mg/l)

Note: BDL - Below Detection Limit, DL - Detection Limit

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PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

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NABL T-1775C

EL-14-15/739	Lab No.	EL030714NW09	Page-1/2
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab		
Type of Sample:	Ground Water		
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14		
Packing, Markings, Seal:	Plastic Bottle Marked '3'		
Quantity:	2 litre		
Mode of Collection of Sample:	Sampling by Laboratory		
Sampling Location:	From Peizometer No. 3 (Near Drain)		
Date of Sampling:	03.07.14		
Sampling Protocol:	IS: 3025-(P-1)-1987-R-1998 Amdt-1		
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas		
Date of Receipt of Sample:	03.07.14		
Date of Reporting:	11.07.14		
Testing Protocol:	IS: 10500-2012		
Remarks & Observation:	Clear colourless liquid		

S.No	Test Parameters	Units	Results	Requirements		Test Method
				Desirable Limits	In Absence of Alternate Source	
1.	Colour	--	< 5	Max 5	Max 15	APHA-22nd Ed 2012-2120B Visual Comparison (Pt Cobalt) Method
2.	Total Dissolved solids	mg/l	350	Max 500	Max 2000	APHA-22nd Ed 2012-2510C
3.	Solids (Suspended)	mg/l	12	--	--	APHA-22nd Ed 2012-2510D
4.	Mercury (as Hg)	mg/l	BDL	Max 0.001	No relaxation	APHA-22nd Ed 2007-3112B (DI - 0.0009 mg/l)
5.	pH Value	--	7.41	6.5 to 8.5	No relaxation	APHA-22nd Ed 2012-4500B
6.	Total Arsenic (as As)	mg/l	BDL	Max 0.01	Max 0.05	APHA-22nd Ed 2012-3111B Hydride Generation (DI - 0.01 mg/l)
7.	Lead (as Pb)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012-3111C FAAS-As, Flame AAS Method (DI - 0.009 mg/l)
8.	Total Chromium (as Cr)	mg/l	BDL	Max 0.05	No relaxation	APHA-22nd Ed 2012-3111C FAAS-As, Flame AAS Method (DI - 0.01 mg/l)

Note: BDL - Below Detection Limit; DL - Detection Limit

Technical Manager III

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PPCB-Ref. No. Lab/3238892
 Dated-30.09.2011

TEST REPORT

NABL-T-1775C

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EL-14-15/938	01/21/07/14	Lab No.	EL030714NW10
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab		
Type of Sample:	Ground Water		
Work Order No. & Date:	NPI/47000-00878 dated 01.03.14		
Packing, Markings, Seal:	Plastic Bottle Marked 'H'		
Quantity:	2 litre		
Mode of Collection of Sample:	Sampling by Laboratory		
Sampling Location:	From Peizometer No. 4 (Between Ash Sump & Reservoir)		
Date of Sampling:	03.07.14		
Sampling Protocol:	IS: 3025-(P-1)-1987-R-1998 Amdt-1		
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas		
Date of Receipt of Sample:	03.07.14		
Date of Reporting:	11.07.14		
Testing Protocol:	IS: 10500-2012		

Remarks & Observation: Clear colourless liquid

S.No	Test Parameters	Units	Results	Requirements		Test Method
				Desirable Limits	In Absence of Alternate Source	
1	Colour	--	5	Max 5	Max 15	APIHA-22nd Ed 2012-3120 B Visual Comparison (Pt Cobalt) Method
2	Total Dissolved solids	mg/l	110	Max 500	Max 2000	APIHA-22nd Ed 2012-3530C
3	Solids (Suspended)	mg/l	10	--	--	APIHA-22nd Ed 2012-3530D
4	Mercury (as Hg)	mg/l	BDL	Max 0.001	No relaxation	APIHA-22nd Ed 2012-3112B (DI = 0.0009 mg/l)
5	pH value	--	7.57	6.5 to 8.5	No relaxation	APIHA-22nd Ed 2012-1500B
6	Total Arsenic (as As)	mg/l	BDL	Max 0.01	Max 0.05	APIHA-22nd Ed 2012-3113C Hydride Generation (DI = 0.1 mg/l)
7	Lead (as Pb)	mg/l	BDL	Max 0.05	No relaxation	APIHA-22nd Ed 2012-3111C (Ex A-A, Flame AAS Method) (DI = 0.009 mg/l)
8	Total Chromium (as Cr)	mg/l	BDL	Max 0.05	No relaxation	APIHA-22nd Ed 2012-3111D (Ex A-A, Flame AAS Method) (DI = 0.09 mg/l)

Note: BDL - Below Detection Limit; DI - Detection Limit

Technical Manager (H)

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TEST REPORT

PPCR-Ref. No. Lab/3238892
Dated-30.09.2011

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EL-14-15/742	Lab No.	EL030714GA01
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab	
Type of Sample:	Ambient Air	
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14	
Mode of Collection of Sample:	Sampling by Laboratory	
Sampling Location:	Near NDCI	
Date of Sampling:	30.06.14	
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.	
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas	
Date of Receipt of Sample:	01.07.14	
Date of Reporting:	11.07.14	
Testing Protocol:	National Ambient Air Quality Standards (NAAQS) 2009	
Remarks & Observation:	Sunny Day:24hr Sampling	

S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM ₁₀)	µg m ⁻³	31.22	60	Lab SOP EL-A1-PM2.5 Issue 01 Dated 16.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM _{2.5})	µg m ⁻³	71.44	100	IS: 5182 (P-23) 2004
3.	Sulphur Dioxide (SO ₂)	µg m ⁻³	6.31	80	IS: 5182 (P-24) 2004
4.	Nitrogen Oxides (as NO ₂)	µg m ⁻³	10.76	80	IS: 5182 (P-25) 2004
5.	Carbon Monoxide (CO)	mg m ⁻³	BDL	04	Lab SOP EL-A2-CO1 Issue 01 Dated 16.14 Electrochemical Method- Manufacturer's Manual (DL) 1.5 mg m ⁻³
6.	Mercury as Hg	ng m ⁻³	BDL		APHA 22 nd Ed. 2012 3.12.1 (DL) 10 ng m ⁻³

Note: BDL - Below Detection Limit, DL - Detection Limit

Author: *[Signature]* Laboratory

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PCCB-Ref. No. Lab/3238892 **TEST REPORT**
 Dated: 30.09.2011

EL-14-15/741	dt: 21/07/14	Lab No.	EL030714GA02	Page-1/1
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab			
Type of Sample:	Ambient Air			
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14			
Mode of Collection of Sample:	Sampling by Laboratory			
Sampling Location:	Near Storm Water Sump 2			
Date of Sampling:	30.06.14			
Sampling Protocol:	IS: 5182 (P-14) 2000. CPCB Guidelines and Customer's Requirements			
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas			
Date of Receipt of Sample:	01.07.14			
Date of Reporting:	11.07.14			
Testing Protocol:	National Ambient Air Quality Standards (NAAQS) 2009			
Remarks & Observation:	Sunny Day:24hr Sampling			

S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM ₁₀)	µg/m ³	29.22	60	Lab SOP EL-A1-PM10 Issued Dated 16.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM _{2.5})	µg/m ³	66.44	100	IS: 5182 (P-23) 2004
3.	Sulphur Dioxide (SO ₂)	µg/m ³	5.86	80	IS: 5182 (P-2) 2001
4.	Nitrogen Oxides (as NO _x)	µg/m ³	9.31	80	IS: 5182 (P-6) 2006
5.	Carbon Monoxide (CO)	mg/m ³	BDL	04	Lab SOP EL-A2-CO Issued Dated 16.14 Electrochemical Method- Manufacturer's Manual (DL: 1.5 mg/m ³)
6.	Mercury as Hg	ng/m ³	BDL	-	APHA 22 nd Ed. 2012 3.12.D (DL: 10 ng/m ³)

Note: BDL = Below Detection Limit, DL = Detection Limit

Authorized Signature

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PPCB-Ref. No. Lab/3238892
 Dated-30.09.2011

TEST REPORT

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Customer:	Lab No. EL030714GA03
Type of Sample:	Nabha Power Ltd. P.O Box No. 28. Near Vill. Nalash Dist. Patiala. Rajpura. Punjab
Work Order No. & Date:	Ambient Air
Mode of Collection of Sample:	P.O No. NPL/47000-00878 dated 01.03.14
Sampling Location:	Sampling by Laboratory Near Switch Yard <i>Not Valid for General Purpose</i>
Date of Sampling:	02.07.14
Sampling Protocol:	IS: 5182 (P-14) 2000. CPCB Guidelines and Customer's Requirements.
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas
Date of Receipt of Sample:	03.07.14
Date of Reporting:	11.07.14
Testing Protocol:	National Ambient Air Quality Standards (NAAQS) 2009
Remarks & Observation:	Partially Cloudy; 24hr Sampling

S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM ₁₀)	µg m ⁻³	25.57	60	Lab SOP IT-AI-PM2.5 Issued Dated 1.6.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM ₁₀)	µg m ⁻³	69.17	100	IS: 5182 (P-23) 2004
3.	Sulphur Dioxide (SO ₂)	µg m ⁻³	6.85	80	IS: 5182 (P-2) 2004
4.	Nitrogen Oxides (as NO _x)	µg m ⁻³	8.93	80	IS: 5182 (P-6) 2004
5.	Carbon Monoxide (CO)	mg m ⁻³	BDL	0.1	Lab SOP IT-AI-CO Issued Dated 1.6.14 Electrochemical Method- Manufacturer's Manual (DL) 1.5 mg m ⁻³
6.	Mercury as Hg	ng m ⁻³	BDL	-	APHA 22 nd Ed. 2012 3.12. D (DL) 10 ng m ⁻³

Note: BDL - Below Detection Limit DL - Detection Limit

Authorized Signatory

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Eco Laboratories & Consultants Pvt. Ltd.

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ISO-14001:2004 OHSAS-18001:2007 CIN : U74140PB2011PTC034739

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PCCB-Ref. No. Lab/3238892 **TEST REPORT**
Dated-30.09.2011

Page-1/1

EL-14-15/944		dt: 21/07/14		Lab No.	EL030714GA04
Customer:		Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab			
Type of Sample:		Ambient Air			
Work Order No. & Date:		P.O No. NPL/47000-00878 dated 01.03.14			
Mode of Collection of Sample:		Sampling by Laboratory <small>Not valid for Consumer Purpose</small>			
Sampling Location:		Near Loco Shed			
Date of Sampling:		02.07.14			
Sampling Protocol:		IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.			
Sampling Team:		Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas			
Date of Receipt of Sample:		03.07.14			
Date of Reporting:		11.07.14			
Testing Protocol:		National Ambient Air Quality Standards (NAAQS) 2009			
Remarks & Observation:		Partially Cloudy:24hr Sampling			
S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM _{2.5})	µg/m ³	28.75	60	Lab SOP EL-A1-PM2.5 Issued Dated 1.6.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM ₁₀)	µg/m ³	67.82	100	IS 5182 (P-23) 2004
3.	Sulphur Dioxide (SO ₂)	µg/m ³	5.58	80	IS 5182 (P-2) 2004
4.	Nitrogen Oxides (as NO _x)	µg/m ³	7.47	80	IS 5182 (P-6) 2006
5.	Carbon Monoxide (CO)	mg/m ³	BDL	04	Lab SOP EL-A2-CO Issued Dated 1.6.14 Electrochemical Method- Manufacturer's Manual (DL =1.5 mg/m ³)
6.	Mercury as Hg	ng/m ³	BDL	-	APHA 22 nd Ed. 2012 5-12 D (DL =10 ng/m ³)

Note: BDL - Below Detection Limit, DL - Detection Limit

Authorized Signatory
[Signature]

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TEST REPORT

PPCB-Ref. No. Lab/3238892
 Dated-30.09.2011

1100914

EL-14-15/245	dt: 21/07/14	Lab No.	EL030714GA05	Page-1/1
Customer:	Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab			
Type of Sample:	Ambient Air			
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14			
Mode of Collection of Sample:	Sampling by Laboratory <i>and for consent for use</i>			
Sampling Location:	On roof top (Vill. Salempur, Rajpura)			
Date of Sampling:	03.07.14			
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.			
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas			
Date of Receipt of Sample:	04.07.14			
Date of Reporting:	11.07.14			
Testing Protocol:	National Ambient Air Quality Standards (NAAQS) 2009			
Remarks & Observation:	Sunny Day:24hr Sampling			

S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM _{2.5})	µg m ⁻³	30.26	60	Lab SOP EL-A1-PM2.5 Issue 01 Dated 1.6.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM ₁₀)	µg m ⁻³	72.56	100	IS: 5182 (P-23) 2004
3.	Sulphur Dioxide (SO ₂)	µg m ⁻³	5.96	80	IS: 5182 (P-2) 2004
4.	Nitrogen Oxides (as NO ₂)	µg m ⁻³	11.27	80	IS: 5182 (P-6) 2000
5.	Carbon Monoxide (CO)	mg m ⁻³	BDL	04	Lab SOP EL-A2-CO Issue 01 Dated 1.6.14 Electrochemical Method- Manufacturer's Manual (DL: 1.5 mg m ⁻³)
6.	Mercury as Hg	ng m ⁻³	BDL	10	APHA 22 nd Ed. 2012 3.12.D (DL: 10 ng m ⁻³)

Note: BDL - Below Detection Limit, DL - Detection Limit

Author: *[Signature]*
 Laboratory

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TEST REPORT

PFCB-Ref. No. Lab/3238392
 Dated-30.09.2011

EI-14-15/706		dt: 21/07/14		Lab No.	EL030714GA06	Page-1/1
Customer:		Nabha Power Ltd. P.O Box No. 28. Near Vill. Nalash Distt. Patiala, Rajpura, Punjab				
Type of Sample:		Ambient Air				
Work Order No. & Date:		P.O No. NPL/47000-00878 dated 01.03.14				
Mode of Collection of Sample:		Sampling by Laboratory				
Sampling Location:		On roof top (Vill. Dadumajra, Rajpura) for house hold purpose				
Date of Sampling:		03.07.14				
Sampling Protocol:		IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.				
Sampling Team:		Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas				
Date of Receipt of Sample:		04.07.14				
Date of Reporting:		11.07.14				
Testing Protocol:		National Ambient Air Quality Standards (NAAQS) 2009				
Remarks & Observation:		Sunny Day: 24hr Sampling				
S.No	Test Parameters	Units	Results	Limit	Test Method	
1.	Particulate Matter (PM ₁₀)	µg m ⁻³	28.44	60	Lab SOP EI-AI-PM ₁₀ 5 Issued/ Dated 16/11 based on Manufacturer's Manual and CPCB Guidelines	
2.	Particulate Matter (PM _{2.5})	µg m ⁻³	63.55	100	IS: 5182 (P-23) 2004	
3.	Sulphur Dioxide (SO ₂)	µg m ⁻³	5.13	80	IS: 5182 (P-21) 2001	
4.	Nitrogen Oxides (as NO _x)	µg m ⁻³	8.09	80	IS: 5182 (P-6) 2006	
5.	Carbon Monoxide (CO)	mg m ⁻³	BDL	0.4	Lab SOP EI-A2-CO Issued/ Dated 16/11 Electrochemical Method- Manufacturer's Manual (DL: 1.5 mg m ⁻³)	
6.	Mercury as Hg	ng m ⁻³	BDL	-	APHA 22 nd Ed. 2012 3.12 D (DL: 10 ng m ⁻³)	

Note: BDL = Below Detection Limit, DL = Detection Limit

Authorized Signatory



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PPCD Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

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EL-14-15/247 Lab No. EL030714GA07

Customer: Nabha Power Ltd.
P.O Box No. 28, Near Vill. Nalash
Distt. Patiala, Rajpura, Punjab

PPCD Ref. No. Lab/3238892

Type of Sample:	Ambient Air
Work Order No. & Date:	P.O No. NPL/47000-00878 dated 01.03.14
Mode of Collection of Sample:	Sampling by Laboratory
Sampling Location:	On roof top (Vill. - Dabhali, Rajpura)
Date of Sampling:	03.07.14
Sampling Protocol:	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Sampling Team:	Lab Representative: Mr. Jasbir Singh & Team Customer Representative: Mr. Vikas
Date of Receipt of Sample:	04.07.14
Date of Reporting:	11.07.14
Testing Protocol:	National Ambient Air Quality Standards (NAAQS) 2009
Remarks & Observation:	Sunny Day: 24hr/8hr/1hr Sampling

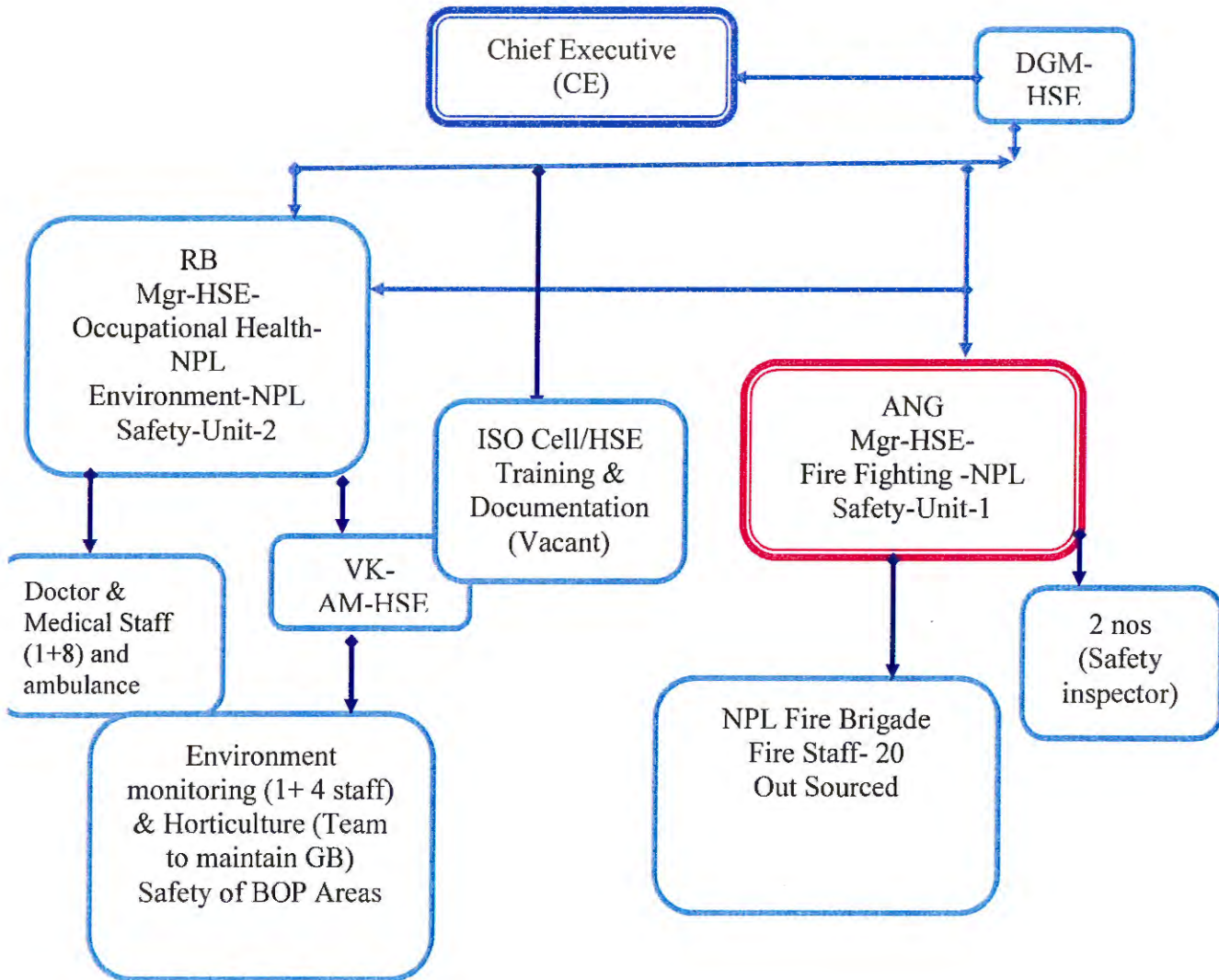
S.No	Test Parameters	Units	Results	Limit	Test Method
1.	Particulate Matter (PM ₁₀)	µg/m ³	29.78	60	Lab SOP EI-AI-PM10 Issued Dated 16.14 based on Manufacturer's Manual and CPCB Guidelines
2.	Particulate Matter (PM _{2.5})	µg/m ³	70.26	100	IS: 5182 (P-23) 2001
3.	Sulphur Dioxide (SO ₂)	µg/m ³	5.73	80	IS: 5182 (P-2) 2001
4.	Nitrogen Oxides (as NO ₂)	µg/m ³	9.76	80	IS: 5182 (P-6) 2006
5.	Carbon Monoxide (CO)	mg/m ³	BDL	04	Lab SOP EI-A2-CO Issued Dated 16.14 Electrochemical Method- Manufacturer's Manual (DL-1) 5 mg/m ³
6.	Mercury as Hg	ng/m ³	BDL	-	APHA 22 nd Ed. 2012 3.12.D (DL-1) 10 ng/m ³

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Current Organization Chart

HSE NPL Rajpura



NABHA POWER LIMITED, RAJPURA
Expenses incurred for Environmental Protection

S.No	Description	Cost (in Crores)	Expenditure till March, 2014 (in Crores)
1	Electro Static Precipitator (ESP)	370	370
2	Chimney	71	71
3	Cooling Tower incl. civil works	157	157
4	Ash Handling	168	168
5	Ash Dyke	47	47
6	Effluent Treatment Plant (ETP)	3	3
7	Dust Extraction & suppression system	5	5
8	Control of fire & explosion hazards	30	30
9	DM plant waste water treatment	3	3
10	Sewerage collection, treatment & disposal	2	2
11	Environmental lab. Equipments	0.01	0.01
12	Green belt, Afforestation & landscaping	5	3
TOTAL		861.01	859.01



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TEST REPORT

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

EL-13-14/341	dt: 26/03/14	Lab No.	EL220314PS03	Page-1/1
Customer:	Nabha Power Ltd. P.O Box No. 28. Near Vill. Nalash Distt. Patiala, Rajpura. Punjab			
Type of Sample:	Fly Ash			
Work Order No. & Date:	NPL/47000-00878 dated 01.03.14 <i>Report valid only for Consent Purposes</i>			
Mode of Collection of Sample:	Sampling by Laboratory <i>and not for Monitoring Purposes</i>			
Packing, Markings, Seal & Identity:	Poly Bag Marked 'Fly Ash'			
Quantity:	500gm			
Date of Sampling:	22.03.14			
Sampling Team:	Laboratory Representative: Mr. Sumit Rana & Team Customer Representative: Mr. Vikas Kashyap (Asst. Manager)			
Date of Receipt of Sample:	22.03.14			
Date of Reporting:	26.03.14			
Testing Protocol:	EPA 1986 General Standards			
Remarks & Observation:	Grey Coloured Fine Powder.			
S.No	Test Parameters	Units	Results	Test Method
1.	Lead (as Pb)	mg kg	5.0	APHA -22 nd Ed 2012-3111B A-Ac Flame AAS Method
2.	Arsenic (as As)	mg kg	1.32	APHA-22 nd Ed 2012-3111C Hydride Generation
3.	Total Chromium (as Cr)	mg kg	8.30	APHA-22 nd Ed 2012-3111B A-Ac Flame AAS Method
4.	Mercury (as Hg)	mg kg	0.12	APHA -22 nd Ed. 2012 3112B



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PPCB-Ref. No. 155/23800
Dated-30.03.2011

TEST REPORT

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EL-13-14/340	dt:26/03/14	Lab No.	EL220314PS02	
Customer:	Nabha Power Ltd. P.O Box No. 28. Near Vill. Nalash Distt. Patiala. Rajpura. Punjab			
Type of Sample:	Bottom Ash <i>Report valid only for Consent Purposes</i>			
Work Order No. & Date:	NPL/47000-00878 dated 01.03.14 <i>for Monitoring Purposes</i>			
Mode of Collection of Sample:	Sampling by Laboratory			
Packing, Markings, Seal & Identity:	Poly Bag Marked 'Bottom Ash'			
Quantity:	500gm			
Date of Sampling:	22.03.14			
Sampling Team:	Laboratory Representative: Mr. Sumit Rana & Team Customer Representative: Mr. Vikas Kashyap (Asst. Manager)			
Date of Receipt of Sample:	22.03.14			
Date of Reporting:	26.03.14			
Testing Protocol:	EPA 1986, General Standards			
Remarks & Observation:	Wet Slurry Grey Coloured			
S.No	Test Parameters	Units	Results	Test Method
1.	Lead (as Pb)	mg/kg	2.5	APHA-22 nd Ed 2012-3111B A-Ac Flame AAS Method
2.	Arsenic (as As)	mg/kg	1.41	APHA-22 nd Ed 2012-3111C Hydride Generation
3.	Total Chromium (as Cr)	mg/kg	7.35	APHA-22 nd Ed 2012-3111B A-Ac Flame AAS Method
4.	Mercury (as Hg)	mg/kg	0.11	APHA-22 nd Ed. 2012-3112B

Author:



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