

State Level Environment Impact Assessment Authority, Rajasthan

4, Institutional Area, Jhalana Doongri, Jaipur-302004

Phone: 0141-2705633, 2711329 Ext. 361

No: FI (4)/SEIAA/SEAC-Raj/Sectt/Project/Cat 1(d) BI (157)/08-09

Jaipur, Dated: 13.0 APR 2010

To,

M/s Neyveli Lignite Corporation Limited,
CTO Building, Block-1,
Neyveli.

Sub: EC for proposed 250 MW Lignite based Thermal Power Station at Village-Bithnok, Tehsil-Kolayat, District-Bikaner

Sir,

This has reference to your application dated 25.11.06 to Government of India & dated 04.02.10 to SEAC, Rajasthan, seeking environmental clearances for the above project under EIA Notification 2006. The proposal has been appraised as per prescribed procedure in the light of provisions under the EIA Notification 2006 on the basis of the mandatory documents enclosed with the application viz. the questionnaire, EIA, EMP and additional clarifications furnished in response to the observation of the State Level Expert Committee Rajasthan, in its meetings held on 26.3.10.

2. Brief details of the Project:

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|----|-----------------------------------|---|
| 1. | Category / Item no.(in Schedule): | 1(d), B-1 |
| 2. | Location of Industry/Project | Village- Bithnok, Tehsil-Kolayat, District -Bikaner |
| 3. | Plot Area | Total 225 ha. |
| 4. | Product & Capacity | Electricity generation 250 MW. |
| 5. | Expected Cost: | Not given. |
| 6. | Water Requirement & Source | 1200 m ³ /hr water required and it is met out from Indira Gandhi Canal on 16.02.2008 for NLCS Bithnok & Riri power projects out of this 1200 m ³ / hr. water required for proposed Thermal Power Plant. |
| 7. | Fuel & Energy:- | Lignite 1.7 million tons/annum at 75% PLF from dedicated conveyer system from mine to TPS. |
| 8. | Environment Management Plan :- | Environments Management plan:-
Based on the worst quality of lignite, fly ash generation would be 54.60 tonnes/ hr. This fly ash would be conveyed by a separate pneumatic conveying system to storage silo from where in transported by covered trucks to industries for manufacturing of cement/ brick other wise for back filling of mined out area. |

Cost of Environmental Protection Measures (Rs. Crores)

Expenditure on Environmental Measures	Costs	
(A) Capital cost for the project	1670.54	
(B) Capital cost for environmental protection	91.50 (5.48% of capital cost)	
	Recurring Cost / annum	Capital cost
<u>Air Pollution Control</u> -Total	1.004	40.16
ESP	0.362	14.50
STACK	0.628	25.14
DE AND DS	0.013	00.52
Water pollution control	0.305	12.20
Noise pollution control	0.000625	0.025
Solid waste disposal	0.950	38.02
Env. Monitoring & Management	0.011	0.44
Reclamation borrow/mined area	-	-
Occupational Health	0.00625	0.25
Green Belt	0.00625	0.268
Others (pl. specify) Sanitary Sewage System	0.0035	0.1396
TOTAL	3.289625	91.50

3. The SEAC Rajasthan after due considerations of the relevant documents submitted by the project proponent and additional clarifications/documents furnished to it have recommended for Environmental Clearance with certain stipulations. The SEIAA Rajasthan after considering the proposal and recommendations of the SEAC Rajasthan hereby accord Environmental Clearance to the project as per the provisions of Environmental Impact Assessment Notification 2006 and its subsequent amendments, subject to strict compliance of the terms and conditions as follows:
- i. This EC is granted for 250 MW (1*250 MW) lignite based Thermal Power Plant.
 - ii. All the condition stipulated by Rajasthan State Pollution Control Board shall be strictly implemented.
 - iii. Ash and sulphur contents in the lignite shall not exceed 28% & 1.4% respectively.
 - iv. Circulating Fluidized Bed Combustion (CFBC) boilers with lime injection shall be used.
 - v. A stack of 100 m height with exit velocity of at least 20m/sec shall be provided with continuous on-line monitoring system. Data collected shall be analyzed and submitted regularly to the Regional office of the MoEF at Lucknow and R.O., RPCB, Bikaner.
 - vi. Water requirement shall not exceed 1200 m³/hr and COC of 5 shall be adopted. No discharge of effluents directly or indirectly shall be done outside the plant boundary.
 - vii. Closed circuit cooling with cooling towers shall be provided.
 - viii. The PP shall provide Ash pond- 25 years for bottom ash 10 years for fly ash.
 - ix. The PP shall ensure that, treated waste water may be used for ash quenching and any balance volume for horticulture.
 - x. The PP shall obtain Clearance from Ministry of Defense, particularly for providing stack of the proposed height vis-à-vis the requirements of the IAF and also from the Air port Authority of India.
 - xi. The PP shall provide CGWA clearance for abstraction of groundwater.
 - xii. The PP shall provide Disinfection on domestic waste water treatment line.
 - xiii. The PP shall explore the feasibility for dry condensers in place of wet condensers.
 - xiv. The PP shall provide pollution control system right from lifting of lignite from mine; fugitive emissions at all identified points.
 - xv. The PP shall take urgent steps to reduce water consumption.
 - xvi. The PP shall provide the copy of PPA document (25 years)
 - xvii. The PP shall provide confirmation by RVPN regarding Sanction and location of Kolayat and Nokha 220 kV Grid substation.
 - xviii. The PP shall provide PPA for sale of Power by NLC to DISCOMS of Rajasthan. Whether Power purchase rate has been duly approved by RERC.
 - xix. The PP shall provide status of land acquisition with a clear certificate that no litigation is pending in this regard.
 - xx. The PP shall correct of distance of Kandla port.
 - xxi. Fly ash shall be collected in dry form and ash generated shall be used in a phased manner as per provisions of the notification on Fly Ash Utilization issued by the Ministry in September, 1999 and its amendment. By the end of 9th year full fly ash utilization shall be ensured.
 - xxii. Ash pond shall be lined with impervious layer to avoid leachate.
 - xxiii. The Proponent shall obtain prior Consent to Establish and Consent to Operate from Rajasthan State Pollution Control Board under Water (Prevention and Control of Pollution) Act' 74 and Air (Prevention and Control of Pollution) Act, 1981.
 - xxiv. As proposed in REIA, the management shall install air cooled condenser system to cut down fresh water demand.
 - xxv. Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided to control emissions within limits by installing adequate air pollution control system like bag filters, dust collectors, ESP etc. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.
 - xxvi. Industrial wastewater generated (RO+ DM rejects-5 KLD; Blow Down-19 KLD; RO Plant effluent- 45 KLD) shall be treated in ETP (capacity 69 KLD), whereas the domestic wastewater shall be treated in STP (capacity 6.4 KLD). Treated effluents shall be used to meet daily needs and the balance volume shall be used for dust suppression, sprinkling in ash handling and green belt development. No discharge of effluents directly or indirectly shall be done outside plant boundary.
 - xxvii. Only one DG set of capacity 250 KVA (with stack height as per the standards put in force by RPCB) shall be installed to take care of start up operations, power failure and other emergencies.
 - xxviii. Bottom & Fly Ash generated @10.84 TPD and collected in "One Ash Silo" (from boiler, economizer, air pre-heater and ESP) shall be collected in dry form, handled as proposed and sent to brick manufacturers and cement industry or disposed of in environment-friendly manner as per provisions of

- the notification on Fly Ash Utilization issued by the Ministry in September, 1999 (amendment till date). The project proponent shall enter into long term contracts with cement manufactures / brick manufacturers prior to start of the work. Ash disposal would be done through high concentration slurry disposal system on the lined pond. Fly ash utilization plan shall be submitted to the RPCB within six months. Ash generated shall be used in a phased manner. By the end of 7th year full fly ash utilization shall be ensured; however in line the provisions under Fly Ash Notification 1999(amended till date).
- xxix. Electrostatic Precipitator (ESP) with 99.9% efficiency shall be installed to control particulate emission within the prescribed limit up to 100 mg/Nm³. The ESP will be interlocked with the boiler so that, in the event of non-functioning of ESP, the power plant shuts down instantly. As proposed, the ESP shall be connected with the ash handling system.
 - xxx. Fugitive dust emissions shall be controlled as per CPCB guidelines on Fugitive Dust Emissions. The PP shall make elaborate fugitive dust emission control plan at all areas including closed storage areas, closed transportation systems, mechanical material handling systems, and wherever possible conversion of non-point source emissions to point source emissions through creation of vacuum or suction.
 - xxxi. The hazardous waste generated shall be disposed in accordance with provisions under the "Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 (amended till date).
 - xxxii. Plantation shall be carried out on an area of 6.6 ha (1320 trees per 1.32 ha per year). The peripheral plantation shall be carried out in minimum two rows (in staggered manner) to minimize the affects of air pollution. Every year due care shall be taken to replace the casualties.
 - xxxiii. The management shall provide an effective rainwater harvesting system and optimise the cost of conservation. Central Groundwater Authority/Board shall be consulted for finalization of appropriate water harvesting scheme/structures within a period of three months from the date of clearance.
 - xxxiv. Infrastructure facilities including sewage treatment and its sanitary disposal, first aid and shall be made for the project personnel/contract labour and drivers during construction phase.
 - xxxv. Regular monitoring of the air quality shall be carried out in and around the power plant and records be maintained. All air, water and other monitoring shall be carried out through a MOEF/NABL/CPCB/ Government approved laboratories. Six monthly reports shall be submitted to the RPCB and the Regional Office of this Ministry at Lucknow.
 - xxxvi. Regular monitoring of the air quality shall be carried out in and around the power plant (mostly in the down wind directions) and records be maintained. Six monthly reports shall be submitted to the RPCB and the MoEF, Regional Office at Lucknow. The PP shall make concrete efforts to reduce CO₂ emission to the atmosphere (calculated at the rate of 997 gms of CO₂/kWh of power generated).
 - xxxvii. Regular monitoring of ground water in and around the ash disposal area shall be carried out, records maintained.
 - xxxviii. Carry out regular analysis of ash for mercury content, the mercury content shall be less than 25 ppm
 - xxxix. Leq of noise level shall be limited to 75 dB (A) and regular maintenance of equipment is undertaken.
 - xi. For controlling fugitive dust, regular sprinkling of water in lignite storage area and other vulnerable areas of the plant shall be ensured.
 - xii. As proposed, effective fire fighting system shall be provided and mock drills be carried out as per fire & safety rules.
 - xlii. The project proponent shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the SEIAA, Rajasthan and RPCB.
 - xliii. A separate environment monitoring cell with suitable qualified staff shall be set up for implementation of the stipulated environmental safeguards.
 - xliv. Educational and Skill mapping shall be carried out by the PP on the basis of secondary data and submitted to RPCB and the MoEF, Regional Office at Lucknow.
 - xlv. Post project monitoring shall be carried out as proposed and half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the RPCB/CPCB and the MoEF, Regional Office at Lucknow.
 - xlvi. Regional Office of the MoEF located at Lucknow and RPCB shall monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact assessment Report and Management Plan shall be forwarded to these organizations for use during monitoring.
 - xlvii. Full cooperation shall be extended to the Officers of RPCB/CPCB/MoEF Regional Office at Lucknow, who would be monitoring the compliance of environmental status.
 - xlviii. The environmental clearance is subject to any litigation pending before any courts of law/tribunal/legal body in the State/Country, if any.
 - 2. The SEIAA, Rajasthan reserves the right to add new, annul/modify existing stipulated conditions, and/or revoke the clearance if these conditions are not implemented to its satisfaction, in the interest of environment protection.

- 3 The environmental clearance accorded shall be valid for a period of 5 years from the date of start of operation by the power plant.
- 4 In case of any deviation or alteration in the proposed project from that submitted for clearance, a fresh reference shall be made to the SEIAA, Rajasthan to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.
- 5 Necessary permission shall be obtained from the Chief Controller of Explosives and Factory Inspectorate for the Storage of lignite.
- 6 The above stipulations shall be enforced along with others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, Hazardous Wastes (Management and Handling) Rules, 2008, the Public Liability Insurance Act, 1991 and rules there under.
- 7 Document to be provided at the time of applying to RPCB for Consent to Establish/Operate:
 - Approval of competent authority to the proposed Fire Fighting Plan.
 - The PP shall obtain and submit the approval of competent authority in CGWA for using Ground Water, if any, for the project.
 - Source and period of Socio Economic data used in the report to be provided.
 - Details of flora and fauna in the study area duly authenticated by the concerned DFO.
 - Source of data and date of collection to be as per the TOR.
8. A voluntary commitment of the Social responsibility activities to be undertaken by the project proponent and the budgeted amount proposed for such activity.

Yours faithfully,

Sd-
(Sankatha Prasad)
Member Secretary
SEIAA Rajasthan

Copy to following for information and necessary action:

1. Secretary, Ministry of Environment and Forest, Govt. of India, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi.
2. Principal Secretary, Environment Department, Rajasthan, Jaipur.
3. Shri S.C. Derashri, Chairman, SEIAA Rajasthan, 90, Geejgarh Vihar, Hawa Sarak, Jaipur.
4. Shri R.S. Bhandari, Member, SEIAA Rajasthan, 2- Museum Road, Ram Niwas Bagh, Jaipur.
5. Member Secretary, Rajasthan State Pollution Control Board, Jaipur.
- ✓ 6. Member Secretary, SEAC Rajasthan.
7. The CCF, Regional Office, Ministry of Environment & Forests, RO(CZ), Kendriya Bhawan, 5th Floor, Sector 'H', Aliganj, Lucknow-226 020.
8. IA- Division, Monitoring Cell, MoEF, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi-110003.

M.S.
M.S. SEIAA (Rajasthan)