

कार्यालय मुख्य अभियन्ता  
ओबरा ताप विद्युत परियोजना  
उ.प्र.रा.विद्युत उत्पादन निगम लि०  
(उ.प्र. सरकारका उपक्रम)  
पो० आ० : ओबरा 231219  
CIN: U40101UP 980SGC005065



OFFICE OF THE CHIEF GENERAL MANAGER  
OBRA THERMAL POWER STATION  
U.P.R.V.U.N.LTD OBRA-SONEBHADRA  
(U.P. Govt. Undertaking)  
P.O.: OBRA - 231219  
CIN: U40101UP 980SGC005065

No. /CGM/W-1/

Dated 04/Jan, 2018

Subject:- Compliance report for the period of January to June, 2017 in respect of EC granted for 2x660 MW Obra-C TPS by MoEF&CC on dated 21-06-2016.

Dr. S. Kerketta,  
Scientist 'F',  
Ministry of Environment, Forest and Climate Change,  
Indira Paryavaran Bhawan,  
Jorbagh Road, Aliganj,  
New Delhi- 110003

Dear Sir,

In reference to the EC granted by MoEF&CC for expansion by addition of 2x660 MW coal based Obra C TPS of M/s UPRVUNL at Obra Thermal Power Station kindly find attached herewith the compliance report for the period from January to June, 2017.

Thanking You,

Sincerely Yours,

Encl.:- As Above.

(A.K. Singh)  
CGM and Project Coordinator

No. /CGM/W-1/

Copy forwarded to the following for information and necessary action:-

- i) Regional Directorate (North), PICUP Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow - 226 010, Central Pollution Control Board (E-mail: cpcb Lucknow@airbroadband.in)
- ii) Regional office, State Pollution Control Board, 162-North Mohal, Near Chandi Hotel, Robertsganj, Sonebhadra, U.P.
- iii) CEA, Sewa Bhawan, R. K. Puram, Sector-1, New Delhi

(A.K. Singh)  
CGM and Project Coordinator

No. 952 /CGM/W-1/ SB B-10 (U.P.)

Copy also forwarded to the following for information and necessary action:-

- iv) Chief Engineer, Civil New Projects-II, 7<sup>th</sup> Floor Shakti Bhawan Extn., Lucknow
- v) Chief Engineer (Constn.), Obra-C, Obra TPS, Obra
- vi) Chief Project Manager, Pragati, UPRVUNL, Shakti Bhawan, 14-Ashok Marg, Lucknow with the request that compliance report may please be uploaded on the nigram's website.
- vii) SE, Obra 'C' Construction Circle- I & II, Obra.
- viii) Executive Engineer, Obra Construction Division- IV, Obra.

(A.K. Singh)  
CGM and Project Coordinator

Pl. upload  
4/1/18



4/1/18

**2x660 MW Obra-C TPS at Obra, Distt.- Sonebhadra**  
 Compliance report for the period of Jan-June, 2017  
 on Terms & Conditions of MoEF&CC dated 21-06-2016

1. Proposal No. : IA/UP/THE/30897/2007
2. File no. : J-13012/144/2007-IA.ii(T)
3. Category of the proposal : Thermal Projects
4. Name of the proposal : Expansion by addition of 2x660 MW coal based Obra 'C' TPS of M/s UPRVUNL at Obra Thermal Power Station
5. Date of submission : 23 Nov 2015
6. Name of the project proponent along with contact details:
  - a) Name of the proponent : Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.
  - b) Contact Details : Chief General Manager, Obra Thermal Power Station, Obra
  - c) State : Uttar Pradesh
  - d) District : Sonebhadra
  - e) Pin code : 226001
 Email: [cgm.obra@uprvunl.org](mailto:cgm.obra@uprvunl.org)  
 Mobile No.: 9415900124

Clause No.	SPECIFIC CONDITIONS	COMPLAINCE
(i)	The EC is subject to the clearance from the Standing Committee of the NBWL. Further, the grant of EC does not necessarily imply that wildlife clearance shall be granted to the Project. The proposal of wildlife clearance will be considered by the respective authorities on its merits and decision taken. The investment made in the project, if any based on EC, in anticipation of the clearance from wildlife angle shall be entirely at the cost and risk of the project proponent and MoEF shall not be responsible in this regard in any manner.	Wildlife clearance has been obtained from the competent authority, and a copy of the same has already been submitted to MoEF&CC.
(ii)	The action plan submitted for phasing out the existing old Units shall be duly implemented in a time bound manner. Further, the standards notified by the Ministry on 07.12.2015 for thermal power plants shall also be compiled by the existing units.	Five units of 50 MW (Unit #1 to 5) and three units of 100 MW (Unit #6 to 8) under Obra 'A' TPS have been phased out. Five units of 200 MW (Unit # 9 to 13) are presently operative under Obra 'B' TPS. R&M work of unit # 9, 10 & 11 have been completed through M/s BHEL. During R&M work ESP of 99.9% efficiency have been installed in unit # 9, 10 & 11 and SPM level in the flue gas through the chimney is maintained within 100 mg/Nm <sup>3</sup> which is as per the limit fixed by MoEF/CPCB. Unit # 12 is presently under shut down and R&M work is in progress. Unit # 13 of 200 MW is also expected to be taken on shut down very shortly for R&M work. In unit # 12 & 13 also ESP of 99.9% efficiency with a design SPM level within 100 mg/Nm <sup>3</sup> will be installed during R&M.

12

(iii)	The EC is recommended for 70% imported and 30% domestic coal. The PP shall apply for suitable amendment of EC after obtaining the EC and FC of the linked coal block or if there is any change in the proposed source of coal.	The work is under construction stage and in case of any deviation with respect to the EC, the same shall be applied for suitable amendment.
(iv)	The Sulphur and ash content of imported coal shall not exceed 0.6% and 12% respectively. The Sulphur and ash content of domestic coal shall not exceed 0.4% and 32% respectively. In case of variation of quantity at any point of time, fresh reference shall be made to the Ministry for suitable amendments to the environmental clearance.	The project is under construction state. In case of any deviation in the sulphur and ash content in imported and domestic coal w.r.t. the EC, same shall be applied for suitable modification.
(v)	Detailed credible Action Plan for fly ash Utilization from the existing and expansion units in compliance to the Ministry's Notifications shall be submitted to the Ministry. The details (size, location and liner system, including capping if any for old ash pond) of existing ponds along with quantity of ash and that for proposal unit should be provided.	Project is under construction stage and the plan for fly ash utilization shall be submitted to the ministry in due course of time.  For existing units of Obra TPS, Fly ash is being utilized in cement manufacturing through M/s Ultratech and for manufacturing of fly ash based brick through brick manufacturers. Apart from the above about 3.25 Lakh Cum ash from the ash pond has been lifted during Nov2016 to Nov2017 period and utilized in the filling work of road construction. Continuous efforts are being made to utilize the fly ash as notified by the ministry.
(vi)	As a precautionary measure to prevent the entry of heavy metals into food chain, the PP should: (i) immediately barricade the polluting ash dykes and the contaminated area including agricultural fields of farmers, (ii) the PP should examine the possibility of acquiring the agriculture fields after paying compensation to the farmers, and (iii) the fields should not be used for cultivation till they are decontaminated.	Work order has been placed with NBRI, Lucknow to carry out the following studies (Period; 6 June 2016 to Oct 5, 2018)-   LOI to NBRI, Lucknow.pdf  1) Assessment of soil health and recommendation of the contamination strategies. 2) Mitigation of fly ash contaminated agriculture soil.  Copy of the Report from June 2016 to May 2017 is enclosed. ,   NBRI, Lucknow_Outcome of  This is also to inform that New ash dyke is proposed to be constructed for Obra 'C' as an extension of old and abandoned ash ponds of Obra A&BTSP in which provision of HDPE/LDPE liner has been made to prevent the possibility of contamination of soil by heavy metals. No additional land shall be acquired for this new ash dyke.
(vii)	As the data provided by PP indicates contamination of soil by heavy metals crossing limits in respect of Ni, there is a need	As above clause no. (vi)


	to carry out detailed assessment for soil contamination to know the extent (area and depth) of contamination and then preparation of remediation plan through a competent organization/agency in this field. Based on such study, the PP should undertake both short and long-term mitigation measures including bioremediation technologies to decontaminate the polluted sites and prevent further pollution from existing ash dykes.	
(viii)	The PP should immediately undertake the study not only relating to the contaminated sites, but also the details on the number of ash dykes and the area covered by ash dykes, the amount of ash lying in the dykes, the volume of effluent discharged, and current status of these dykes should be made available for evolving effective decontamination strategies.	As per above clause (vi).
(ix)	As PP has indicated about achieving zero discharge of effluent, the details of proposed system are required to be provided by PP of the 12 MLD ETP proposed, including proposed R.O. system, management of R.O. reject as well as ash overflow and its recycling arrangements.	Presently the project is under design & engineering stage and in due course of time the details desired by the ministry shall be provided.
(x)	The PP should also undertake short and long-term studies on health disorders among people living within the contaminated area.	Medical camps for people living within the contaminated area and other nearby area of the Plant shall be organized.
(xi)	The PP should create an Environment Cell exclusively for Obra TPP, which shall also look into the management of fly ash dumps and monitor decontamination programmed of the contaminated sites. The cell should include one ecologist, one soil scientist/microbiologist, one environmental scientist/engineer, one plant scientist and one occupational health expert. The Head of the Cell (offer of appropriate superiority and qualification) shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.	Environmental cell has been created (photocopy enclosed). Further, as per the direction of ministry condition will be complied.
(xii)	As committed, a minimum amount of Rs.35 crores shall be earmarked for the capital cost of CSR during the construction phase of the Project. The CSR budget during the operational phase shall be minimum as per the CSR policy of GOI. Based on the socio-economic study being carried out by IIT Kanpur, a detailed budgeted credible action plan shall be submitted to the Ministry.	Shall be complied.

12-

(xiii)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	Project is being constructed within premises of existing Thermal Power Plant.
(xiv)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.	Project is under construction stage and provisions have been made in EPC contract. Status of the work as desired shall also be submitted on implementation of this condition.
(xv)	A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	As per above clause (vi). Copy of LOI placed with NBRI, Lucknow indicating the scope of work is enclosed.
(xvi)	Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.	Provision has been made in the EPC contract and implemented during the construction activities.
(xvii)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 30mg/Nm <sup>3</sup> , or as would be notified by the Ministry, whichever is lesser. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.	Provision of high efficiency ESP has been made in the engineering and design of the project so that the value of particulate emission does not exceed 30 mg/NM <sup>3</sup> or as notified by ministry.
(xviii)	The SO <sub>2</sub> , NO <sub>x</sub> and Hg emissions shall not exceed 100 mg/NM <sup>3</sup> , 100 mg/NM <sup>3</sup> and 0.03 mg/Nm <sup>3</sup> respectively.	Provision has been made in the engineering and design of the project so that the value of SO <sub>2</sub> , NO <sub>x</sub> and Hg do not exceed 100 mg/NM <sup>3</sup> , 100 mg/NM <sup>3</sup> and 0.03 mg/Nm <sup>3</sup> respectively.
(xix)	The specific water consumption shall not exceed 2.5 m <sup>3</sup> /MWh and zero waste water discharge shall be achieved.	Provisions to keep specific water consumption within the notified limit of 2.5 m <sup>3</sup> /MWh and zero waste water discharge have been made.
(xx)	Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling points, transfer areas and other vulnerable dusty areas shall be provided.	Provision for adequate dust extraction system has been made in the engineering and design of the project and implemented during the construction activities.
(xxi)	COC of at least 5.0 shall be adopted.	Provision of COC of 6.0 has been made in the engineering and design of the project.
(xxii)	Monitoring of 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	Project is under construction stage and shall be complied on commissioning of the project and implemented during the construction activities.

	between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	
(xxiii)	A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.	Provision for rain water harvesting has been made in the engineering and design of the project and implemented during the construction activities.
(xxiv)	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.	Shall be complied.
(xxv)	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.	Being complied in the leveling and grading activities of the site.
(xxvi)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.	Project is under construction stage and provision for construction of silos has been made for collection of fly ash and monitoring of heavy metals.
(xxvii)	No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	Being complied.
(xxviii)	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.	Project is under construction stage and this condition shall be complied on commissioning of the project.
(xxix)	Green Belt consisting of three tiers of plantations of native species all around plant and at least 50m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than	Project is under construction stage and provision for the green belt has already been made in the DPR as per condition of EC.



12

	80%	
(xxx)	Green belt shall also be developed around the Ash pond over and above the Green belt around the plant boundary.	Shall be implemented.
(xxxii)	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Company has formulated Corporate Environmental Policy at HQ level and a committee has also been constituted at Obra Project level vide OM No. 4924/CGM/W-1/83B-16 Dt. 30.04.2016 (copy enclosed) for ensuring adherence to the policy and compliance with the conditions stipulated in the EC.  OM No 4924 dt 30-4-16.jpg
(xxxiii)	CSR schemes identified based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmers.	Shall be complied.
(xxxiiii)	For proper and periodic monitoring of CSR activities, a CSR committee or a social audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	Shall be complied.
	<b>B) General Conditions</b>	
(i)	Space for FGD shall be provided for future installation as may be required.	Provision of space for FGD has been made.
(ii)	The treated effluents conforming to the prescribed standards only shall be are circulated and refused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Provision for construction of ETP has been made.
(iii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Provision for construction of STP has been made.
(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 will full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Project is under construction stage and shall be complied on commissioning of the project.
(v)	Storage facilities for auxiliary liquid fuel such as LDO/HFO/LEHS shall be made in the plant	Project is under construction stage and shall be complied on commissioning of the project.

12

	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.	
(vi)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First aid and sanitation arrangement for the drivers and other contract workers have been made at work site.
(vii)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal equipment like earplugs/ earmuffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/ less noisy areas.	Shall be implemented.
(viii)	Regular monitoring of ambient air ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of the Ministry. The data shall also be put on the website of the Company.	Shall be implemented.
(ix)	Utilization of 100% Fly Ash generated shall be made from 4 <sup>th</sup> year of operation. Status of implementation shall be reported to the Regional Office of the Ministry time to time.	Project is under construction state and utilization of 100% fly ash shall be made after commissioning as per condition of EC.
(x)	Provision shall be made for the housing of construction labor (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, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the Project.	Construction activities of the project have just started and all the provision as per EC has been made.
(xi)	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 locally concerned within seven days from the date of this clearance letter, informing that the project has been accorded	Complied. Advertisement regarding the approval for EC accorded by MoEF&CC was published in Hindustan on 28-06-2016, in Dainik Jagran on 29-06-2016 and in Times of India on 28-06-2016 copy of which are enclosed.

12

	environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at the Website of MoEF&CC at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	 Newspaper Cutting.jpg  Newspaper Cutting1.jpg
(xii)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall be put on the website of the Company by the proponent.	Copy of the clearance has been uploaded on the company's website.
(xiii)	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), SO2, NOx (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Being complied.
(xiv)	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 Officers of the Ministry of e-mail.	Shall be complied
(xv)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to MoEF&CC, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-main to the Regional Office, MoEF&CC.	Status of the implementation of the stipulated environmental safeguards for the periods from July 2016 to Dec 2016 and June 2016 has already been uploaded on the website of MoEF&CC.
(xvi)	The progress of the project shall be submitted to CEA on six monthly basis.	Shall be complied
(xvii)	Regional Office of the MoEF&CC will monitor the implementation of the stipulated	Being complied

12

	conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will upload the compliance status in their website and up-date the same from time to time at least six monthly basis. <b>Criteria pollutants levels including NOx (from stack &amp; ambient air) shall be displayed at the main gate of the power plant.</b>	
(xviii)	Separate funds shall be allocated for implementation of environmental protection measures along with item wise break up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Shall be complied
(xix)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the date of start of the land development work and commissioning of plant.	Shall be complied
(xx)	Full cooperation shall be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry/CPCB/SPCB who would be monitoring the compliance of environmental status.	Shall be complied.

*Rajeev Kumar*  
3/1/18  
(Rajeev Kumar)  
Executive Engineer

*U.C. Mishra*  
03/1/18  
(U.C. Mishra)  
Superintending Engineer

*Rajendra Singh*  
03/01/18  
(Rajendra Singh)  
Superintending Engineer

*Kailash Gupta*  
03/01/18  
(Kailash Gupta)  
Chief Engineer

*A.K. Singh*  
03/1/18  
(A.K. Singh)  
Chief Engineer & Project Coordinator

## A. Programme/Project details and information

(i). PI (Name, Address, Contact No):	<p><b>Dr. Vivek Pandey</b> Senior Principal Scientist Plant Ecology and Environmental Science Division CSIR-National Botanical Research Institute, Rana Pratap Marg, Lucknow- 226 001 (UP), India. Email: v.pandey@nbri.res.in Mobile 09450657233 Tel: 0522-2297929</p>
(ii) Project Title:	<p><b>Consultancy study for Expansion of Obra Thermal Power Plant by addition of 2x660 MW at Obra, Tehsil Robertsganj, District Sonebhadra, Uttar Pradesh</b></p>
(iii). Project duration	
a. Date of start of the project	June 6, 2016
b. Date of Completion	Oct 5, 2018
(iv) Approved Objectives of the Project	<p>1. Assessment of heavy metals in soil and water and recommend decontamination strategies 2. Mitigation of fly ash contaminated agriculture soil by phytoremediation technique</p>
(v) Period of Technical Report	From June 2016 to May 2017
(vi) Total cost of Project	Rs. 89,35,500/-
(vii) Total sanctioned to date	Rs. 42,73,501/-

12-

OUTCOME OF THE RESULTSHeavy metals in soil of various sites and their permissible limit

Site	Locality/Village	Metal ( $\mu\text{g g}^{-1}\text{Dw}$ )						
		Chromium	Manganese	Copper	Nickel	Zinc	Cadmium	Lead
Site 1	Kariya	70.53±10.62	372±36	12.76±3.24	38.16±12.2	46.32±4.27	0.84±0.04	3.22±0.04
Site 2	Arangi	59.74±13.26	396±52	18.21±1.72	40.42±19.5	52.14±3.62	ND	2.12±0.02
Site 3	Phaphrakhand	64.76±2.78	388±105	12.12±0.46	48.32±10.6	31.18±6.24	ND	3.06±0.02
Site 4	Billi	45.62±4.27	246±104	16.48±0.18	44.61±7.2	28.42±4.36	ND	2.18±0.1
Site 5	Dala	74.26±10.24	526±47	24.42±1.26	74.16±14.6	38.46±2.14	0.42±0.00	3.27±0.8
Site 6	Chakeri	38.71±8.74	154±13	22.06±0.42	36.84±9.3	32.18±0.76	ND	7.42±5.2
Site 7	Gurar	46.27±2.84	514±26	39.46±0.14	42.17±12.7	46.24±1.93	0.82±0.04	3.96±0.06
Site 8	Guest House	38.46±2.75	606±124	37.32±1.27	31.24±7.2	88.26±7.14	ND	1.68±4.02
Site 9	Agori	44.24±2.56	698±56	42.42±0.46	44.14±12.14	49.32±7.18	ND	5.22±0.06
Site 10	Karamsar	54.27±7.26	406±46	36.42±1.04	52.41±11.2	28.34±1.78	ND	5.86±0.2
<b>Permissible Limit</b>								
SEPAC		250	-	100	60	300	0.6	350
WHO		100	2000	100	50	300	3.0	100
ECDGE		200	-	140	75	-	3.0	300

References

SEPAC: Pakade et al. 2014. *Int. J. Res. Chem. Environ.* 4:20-28.

WHO: Chiroma T. M., Ebewele R. O. and Hymore F.K. 2014. *International Refereed Journal of Engineering and Science* 3: 01-09.

ECDGE: Adelekan I, B. A. and Abegunde, K. D. 2011. *International Journal of the Physical Sciences* 6: 1045-1058.

1. There is a slight improvement in the soil parameters. There is decrease in Phosphorus, sodium, potassium and calcium in rainy and winter season from the initial level.
2. The heavy metals in soil at the initiation of the project and the status of heavy metals in rainy and winter season (Average) show that there is a reduction in heavy metal after the rains, but the concentration of Nickel and Cadmium is still above the permissible limit at few sites.
3. The metal content in both ground water and surface water are showing reducing trend from the initial samples.
4. The plants grown for phyto-remediation study are not affected by contamination in soil and are growing well.

### Work in Progress

1. Summer season sampling has been done and the samples of soil and water are being analysed.
2. Rainy season sampling – The rainy season sampling of second year was done in Sept 2017 of both the soil and water of the selected sites and the plants and soil of phyto-remediation site.
3. Gap filling at the phyto-remediation site was done by the selected plants.
3. The results of the 1st year phyto-remediation study would be given in the next report in Jan 2018.

129

कार्यालय मुख्य महाप्रबन्धक  
ताप विद्युत परियोजना  
उपरोर विद्युत उत्पादन निगम लि०  
(उ प्र सरकार का उपक्रम)  
पो० आ० : ओबरा  
सोनभद्र (उ प्र) 231219



OFFICE OF THE CHIEF GENERAL MANAGER  
OBRA THERMAL POWER PROJECT  
U.P. R. VIDYUT UTPADAN NIGAM LTD.  
(A UP Govt. undertaking)  
P.O.: OBRA  
जिला :  
DISTRICT, SONEBHADRA (UP) 231219

No. /CGM/W-I/83b-16

Dated: 30.4.2016

OFFICE MEMORANDUM

In compliance to Nigam's Letter No.160/CE(Civil)/UNL/EMC&DMC, Dt. 20.04.2016 an Environment Management Cell (EMC) is hereby constituted comprising of under mentioned officers to meet out various regulatory requirements of using best Environment Management Practices at Obra Thermal Power Station Obra.

- |  |                      |
|--|----------------------|
| 1. General Manger (ADMN).                                | President            |
| 2. Superintendent Engineer (Civil).                      | Member & Coordinator |
| 3. Er. Dudh Nath, Superintendent Engineer-I, BTPS, OBRA. | Member               |
| 4. Er. Raj Kumar, Superintendent Engineer-V, BTPS, OBRA. | Member 2068          |
| 5. Chief Chemist/As nominated by SE, CFC.                |                      |

EMC will monitor the environmental pollution levels by measuring fugitive emissions, ambient air quality, water and effluent quality, noise level etc. In case, the monitored results of environmental pollution will be found to exceed the desirable values, the EMC will suggest remedial action and ensure that the same are implemented as per provision of standards norms.

This committee will convene a meeting every fortnight and prepare line of action alongwith completion dates to ensure the results of environmental pollution within the norms prescribed by the MoEE.

CHIEF GENERAL MANAGER

No. /CGM/W-I/83b-16 Dated:-

Copy forwarded to the following for information and necessary action:-

1. Director (Technical/Personnel/Project & Commercial), 8<sup>th</sup> Floor, Shakti Bhawan Extn., Lucknow.
2. Chief Engineer (Civil)/(Civil-New Project-I/II) (R&M)/(TO)/(PPMM), UPRVUNL/ 7<sup>th</sup> Floor, Shakti Bhawan Extn., Lucknow.

(D.N.RAM)

PERSONAL ASSISTANT (W-I)  
FOR CHIEF GENERAL MANAGER

No. 494 /CGM/W-I/83b-16 Dated:-

Copy forwarded to the following for information and necessary action:-

1. All Superintendent Engineers, UPRVUNL, OBRA.
2. Concerned Officers.

(D.N.RAM)

PERSONAL ASSISTANT (W-I)  
FOR CHIEF GENERAL MANAGER

Phone: 05445 - 262282, Fax: 05445 - 262244, E Mail: egm\_obra@yahoo.co.in

Each Wednesday of first & fourth week  
Every Wednesday of first & fourth week  
यू.प्र. विद्युत उत्पादन निगम लि०  
उ.प्र. राज्या विद्युत उत्पादन निगम लि०

SCM

PA(W-I)

CE(Admin)

कार्यालय अधीक्षण अभियन्ता  
ओबरा 'सी' जानपद निर्माण मण्डल  
उ०प्र०रा०विद्युत उत्पादन निगम लि०  
(उ०प्र० सरकार का उपक्रम )  
पो० आ० : ओबरा 231219  
जिला : सोनभद्र (उ०प्र०)  
फोन - 05445262313



OFFICE OF THE SUPERINTENDING ENGINEER  
OBRA 'C' CIVIL CONSTRUCTION CIRCLE  
U. P. R. VIDYUT UTPADAN NIGAM LTD. 753  
(A U.P. Govt. Undertaking)  
P.O.: OBRA - 231219  
Distt. SONEBHADRA (U.P.)  
☎ 05445262313  
Mobile : 9415900627  
CIN:U40101UP1980SGC005065

पत्रांक 753 / ओ सी जानिमं / ओबरा सी

दिनांक / जून 25 2016

विषय : प्रस्तावित 2X660 मे०वा० ओबरा 'सी' तापीय विस्तार परियोजना के पर्यावरणीय अनापत्ति के समाचार पत्रों में प्रकाशन एवं व्यापक प्रचार-प्रसार किये जाने के सम्वन्ध में।

जिलाधिकारी,  
सोनभद्र।

महोदय,

भारत सरकार के वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार, के कार्यालय पत्र संख्या जे-13012/144/2007-आई.ए.।।(टी) दिनांक 21.06.2016 के द्वारा ओबरा तापीय परियोजना 2X660 मे०वा० विस्तार परियोजना की स्वीकृति प्रदान की गई है, की छायाप्रति उक्त पत्र के बिन्दु संख्या B) General Conditions के प्रस्तर (xii) & (xiii) में निहित दिशानिर्देशों के अनुपालन में एतद्संलग्न प्रेषित करते हुए आपसे अनुरोध है कि कृपया इस प्रकरण का अपने संज्ञान में यदि कोई गैर सरकारी संस्थान हों एवं अन्य समस्त सम्बन्धित विभागों/संस्थाओं के मध्य व्यापक प्रचार-प्रसार की व्यवस्था करवाने की कृपा करें।

सधन्यवाद,

संलग्नक यथोपरोक्त।

भवदीय,

*R.K. Singh*  
24.6.16

*R.K. Singh*  
( राजेश कुमार सिंह )  
अधीक्षण अभियन्ता

पत्रांक 753 / ओ सी जानिमं / तददिनांक

प्रतिलिपि निम्नांकित को सादर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :

1. मुख्य अभियन्ता एवं परियोजना समन्वयक, ओबरा ताप विद्युत परियोजना, ओबरा।
2. उप जिलाधिकारी (सदर), जिला-सोनभद्र।
3. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियन्त्रण बोर्ड, सोनभद्र।
4. क्षेत्रीय अधिकारी, वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, सोनभद्र।
5. महापौर, नगर महापालिका, सोनभद्र।
6. अध्यक्ष, नगर पंचायत, ओबरा (सोनभद्र)।

*R.K. Singh*  
24.6.16

*R.K. Singh*  
( राजेश कुमार सिंह )  
अधीक्षण अभियन्ता

17-

कार्यालय अधीक्षण अभियन्ता  
ओबरा 'सी' जानपद निर्माण मण्डल  
उ०प्र० विद्युत उत्पादन निगम लि०  
(उ०प्र० सरकार का उपक्रम )  
पो० आ० : ओबरा 231219  
जिला : सोनभद्र (उ०प्र०)  
फोन - 05445262313



OFFICE OF THE SUPERINTENDING ENGINEER  
OBRA 'C' CIVIL CONSTRUCTION CIRCLE  
U. P.R. VIDYUT UTPADAN NIGAM LTD. 753  
(A U.P. Govt. Undertaking)  
P.O.: OBRA - 231219  
Distt. SONEBHADRA (U.P.)  
☎ 05445262313  
Mobile : 9415900627  
CIN:U40101UP1980SGC005065

पत्रांक 753 / ओ सी जानिमं / ओबरा सी

दिनांक / जून 25 2016

विषय : प्रस्तावित 2X660 मे०वा० ओबरा 'सी' तापीय विस्तार परियोजना के पर्यावरणीय अनापत्ति के समाचार पत्रों में प्रकाशन एवं व्यापक प्रचार-प्रसार किये जाने के सम्बन्ध में।

जिलाधिकारी,  
सोनभद्र।

महोदय,

भारत सरकार के वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार, के कार्यालय पत्र संख्या जे-13012/144/2007-आई.ए.।।(टी) दिनांक 21.06.2016 के द्वारा ओबरा तापीय परियोजना 2X660 मे०वा० विस्तार परियोजना की स्वीकृति प्रदान की गई है, की छायाप्रति उक्त पत्र के बिन्दु संख्या B) General Conditions के प्रस्तर (xii) & (xiii) में निहित दिशानिर्देशों के अनुपालन में एतदसंलग्न प्रेषित करते हुए आपसे अनुरोध है कि कृपया इस प्रकरण का अपने संज्ञान में यदि कोई गैर सरकारी संस्थान हों एवं अन्य समस्त सम्बन्धित विभागों/संस्थाओं के मध्य व्यापक प्रचार-प्रसार की व्यवस्था करवाने की कृपा करें।

सधन्यवाद,

संलग्नक यथोपरोक्त।

भवदीय,

*R.K. Singh*  
24.6.16

*R.K. Singh*  
( राजेश कुमार सिंह )  
अधीक्षण अभियन्ता

पत्रांक 753 / ओ सी जानिमं / तददिनांक

प्रतिलिपि निम्नांकित को सादर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :

1. मुख्य अभियन्ता एवं परियोजना समन्वयक, ओबरा ताप विद्युत परियोजना, ओबरा।
2. उप जिलाधिकारी (सदर), जिला-सोनभद्र।
3. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियन्त्रण बोर्ड, सोनभद्र।
4. क्षेत्रीय अधिकारी, वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, सोनभद्र।
5. महापौर, नगर महापालिका, सोनभद्र।
6. अध्यक्ष, नगर पंचायत, ओबरा (सोनभद्र)।

*R.K. Singh*  
24.6.16  
( राजेश कुमार सिंह )  
अधीक्षण अभियन्ता

17-

उत्तर प्रदेश राज्य विद्युत उत्पादन निगम लिमिटेड ओबरा थर्मल पावर स्टेशन ओबरा-सोनेभद्रा-231219 जन सूचना सर्वसाधारण को सूचित किया जाता है कि वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के कार्यालय पर संख्या जे-13012/144/2007-आईए. II (टी) दिनांक 21.06.2016 के द्वारा ओबरा तापीय परियोजना 2x660 मेवा0 विस्तार परियोजना की स्वीकृति प्रदान की गई है जिसकी प्रति राज्य प्रदूषण नियंत्रण बोर्ड एवं वन, पर्यावरण एवं जलवायु परिवर्तन एवं सीओए के वेबसाइट <http://envfor.nic.in> पर देखी जा सकती है। अधिशासी अभियंता ओबरा सी. जलपद निर्माण मण्डल, ओबरा "राष्ट्रहित में विजली बंधन" संख्या-187/ज.स.का./निविदा/दिनांक-24.06.2016

दिनांक-28/6/16

U.P. Rajya Vidyut Utpadan Ni-gam Ltd. Obra Thermal Power Station Obra-Sonebhadra-231219 Public Notice. It is hereby informed that environmental clearance for extension of Obra Thermal Power Project 2x660 MW has been accorded by MOEF & Climatic Change, Govt. of India, vide their office letter No. J-13012/144/2007-IA.II(T) dated 21.06.2016. The copy of clearance letters are available with the State Pollution Control Board/Committee and may also be seen at the website of MOEF & CC at <http://envfor.nic.in> Superintending Engineer Obra 'C' Civil Construction Circle, Obra Save Electricity for Nation RO 187 dt 24.6.16 Sap 21343497\_1

28-6/16

12

उत्तर प्रदेश राज्य विद्युत उत्पादन निगम लिमिटेड, ओबरा थर्मल पावर स्टेशन, ओबरा सोनेभद्रा-231219. जन सूचना: सर्वसाधारण को सूचित किया जाता है कि वन, पर्यावरण एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के कार्यालय पर संख्या जे-13012/144/2007-आईए. II (टी) दिनांक 21.06.2016 के द्वारा ओबरा तापीय परियोजना 2x660 मेवा0 विस्तार परियोजना की स्वीकृति प्रदान की गई है जिसकी प्रति राज्य प्रदूषण नियंत्रण बोर्ड एवं वन, पर्यावरण एवं जलवायु परिवर्तन एवं सी. सी. के वेबसाइट <http://envfor.nic.in> पर देखी जा सकती है। अधिशासी अभियंता, ओबरा सी. जलपद निर्माण मण्डल, ओबरा, प. 187/ ज.स.का./ पर्यावरण अनापत्ति/ दि. 24.06.2016. राष्ट्रहित में विजली बंधन।

दिनांक 29/6/16