



**J-13011/10/96-IA. II (T)**  
**Government of India**  
**Ministry of Environment, Forests and Climate Change**

3<sup>rd</sup> Floor, Vayu Block,  
Indira Paryavaran Bhawan,  
Jor Bagh Road, Aliganj  
New Delhi-110003  
Dated: 09.10.2019.

To,  
The GM&HOD (Environmental Engineering)  
M/s NTPC Limited  
Engineering Office Complex,  
NTPC Ltd, Plot No. A-8A, Sector-24  
Noida – 201301.

**Tele:** 01202416930; **Fax:** 0120 2410206; **E-mail:** environment.ntpc@gmail.com.

**Sub: 3x660 MW (Stage-I) Sipat Super Thermal Power Project, Village Sipat, Tehsil Masturi at District Bilaspur, Chhattisgarh by M/s NTPC Ltd. - reg. amendment in EC.**

Sir,

The undersigned is directed to refer to your online application no. IA/CG/THE/107493/2019 dated 14.6.2019 requested for amendment in the Ministry's permission dated 17.5.2018 regarding transportation of coal with open wagons instead of tarpaulin covered wagons.

2. It has been noted that EC was accorded by MoEF for 2000 MW (4x500) on 22.02.1999 and subsequent amendments/letters dated 14.01.2000, 30.04.2002 and 08.09.2014 for change of fuel composition, change in configuration (from 4x500 MW to 3x660 MW) and temporary permission for transportation of coal by open wagons for one year respectively. However, permission for transportation of coal by open wagons is accorded vide Ministry's letter dated 8.9.2014 for one year with the stipulation that within one year, NTPC shall come out with a plan of carrying coal in a cleaner way. Subsequently, Ministry vide letter dated 8.2.2017 issued temporary permission for one more year (till 31.1.2018) to transport coal in open wagons covering with tarpaulin cover. The Ministry vide letter dated 17.5.2018 permitted coal transportation in open wagons with a condition that wagons are to be covered with tarpaulin sheet/cloth.

3. It has been informed by you that the covering wagons requires manual process of covering and uncovering which is not feasible to transport the coal 9.82 million tonnes per annum using covered wagons. It takes about six persons each to cover and uncover two wagons at mine and power plant end respectively. The time required for covering is about 15 minutes while the same for uncovering is about 5 minutes. It has been informed that it takes an additional time of an hour for covering and uncovering work, which is not envisaged in the design of MGR system which leads to delay in supply of coal to power plant and disturbs the schedule of coal transportation in MGR route. The cycle time increases by nearly 2 hours which will reduce 4 rakes/day. The present capacity of 16-17 rakes/day (44,000 MT/day) will reduce down to 12-13 rakes/day (33,000 MT/day) which is far less than our daily coal consumption of 44,000 MT/day. Further, use of tarpaulin sheets shall lead to environmental hazard and generation of plastic wastes.

4. It has been informed that the additional infrastructure is required to be built to accommodate this activity such as working platform, lighting, labour rest rooms,

drinking water facility at loading and unloading end. There is a space constraint to construct this infrastructure. It has been informed that water sprinkling is being done at four points along the total stretch of 42 km viz. loading, unloading points, ½ km before entry, at 22km chainage point (mid-section) to ensure air pollution is not caused due to transportation and loading/unloading operations.

5. The proposal has been considered by the EAC (Thermal Power) in its 29<sup>th</sup> meeting held on 26.6.2019. In acceptance of the recommendations of the re-constituted Expert Appraisal Committee (Thermal Power) held on 26.6.2019 and in view of the information/clarification furnished by you, with respect to the above mentioned power project, **the Ministry hereby accords the permission for waiving the condition of transportation of coal with tarpaulin covered wagons subject to following additional conditions:**

- i. As proposed, the water sprinkling at four points viz. loading point, unloading points, ½ km before entry, at 22 km chainage point (Mid Section) shall be carried out to keep the coal wet and to control dust generation.
  - ii. NTPC being a large consumer of coal, should take up an R&D activity of developing a mechanical sliding of the cloth over wagon top which should be easily closed/opened with mechanical arrangement and should also not hamper loading operations. Once successful, this can be replicated in the country as best environmental practice to prevent air pollution from coal. This will also prevent oxidation.
6. All other conditions mentioned in this Ministry's letters of even no. dated 22.2.1999, 14.1.2000, 30.4.2002, 8.9.2014, 8.2.2017 and 17.5.2018 shall remain the same, as applicable.

This issues with the approval of the Competent Authority.

Yours Faithfully,

  
**(Dr. S. Kerketta)**  
**Director, IA.I**

Copy to:-

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-440001.
5. The Member secretary, Chhattisgarh Pollution Control Board, Paryavas Bhawan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002
6. The Principal Secretary, Department of Environment, Government of Chhattisgarh, Room No. 308, D.K.S. Bhawan, Mantralaya, Raipur, Chhattisgarh - 492001.
7. The District Collector, Bilaspur District, Govt. of Chhattisgarh, Bilaspur (C.G.)-495001.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.

  
**Director, IA.I**

BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
Original Application No. 459/2018  
Earlier 196/2014 (CZ)  
Rashmi Singh Vs NTPC Ltd. & Ors

SUBMISSIONS BY RESPONDENT No. 1 IN COMPLIANCE TO ORDER OF NGT  
DATED 27.02.2020 PASSED BY HON'BLE TRIBUNAL.

In compliance of the order of Hon'ble Tribunal, Principle Bench NGT at New Delhi, passed in the above matter on 27.02.2020 & as directed in Para 11 of said order, Respondent No. 1 hereby submits compliance status of EC Conditions which were " Being Complied" & " Partial Complied " in status report submitted by the Regional Office -MOEF & CC , Nagpur dated 20.06.2019 :-

SI No	EC Condition	Compliance Status as on 11.06.2019 , MOEF &CC status report 20.06.2019	Present Status of Compliance as on 30.05.2020
1	Coal should be used @ 10 MT/year for Stage-I with sulphur content not exceeding 0.24%. The coal should be transported from Korba Coalfields by Captive MGR in closed wagons to avoid dust pollution.	<b>Partially Complied</b> MOEF vide letter J-13011/10/1996-IA.II (T) dated 08.09.2014 has permitted to use coal with sulphur content not exceeding 0.40 %. Revised condition is being complied.  For Closed wagon transportation , matter has been put up before MOEF for exemption	<b>Complied</b> It is submitted that this revised condition is being complied with.  It is submitted that this exemption has been granted by MoEF vide its Notification dated 09/10/2019 ( Copy Enclosed )
2	As per the proposal submitted for Ash Utilization, it should be ensured that fly ash is used in cement industry, brick making and in raising the ash dyke etc.  Efforts should also be made in the area of mine filling, land development and agriculture etc. For brick making, about 50 acres	<b>Partially Complied</b> In FY 2018-19, Ash utilization is 49.54%. Dry fly ash is being issued free of cost to fly ash brick manufacturers. Nearby cement industries are also getting fly ash from Sipat. Pond ash is being used in dyke raising. Pond ash being supplied	<b>Partially Complied</b> It is submitted that Ash utilization at NTPC Sipat is on an increasing trend & with it is likely to achieve 100% ash utilization by 2020-21. Dry fly ash is being issued free of cost to fly ash brick manufacturers. Near by Cement industries are getting fly ash free of cost from Sipat. Pond



<p>of land with all infrastructure facilities should be earmarked. Full fly ash utilization should be ensured at the end of 9th year from the date of commissioning of the project</p>	<p>to road projects for embankment filling, low lying area filling &amp; area development in outside NTPC land. (<b>Annexure-5</b>)</p> <p>70 Acre Revenue land had been identified at Saler Village and which has got transferred to Deptt of Industries, Govt. of Chhattisgarh and then to Chhattisgarh State Industrial Development Corporation Limited [CSIDC]. CSIDC has sought approval from concerned authorities and the same is awaited. NTPC is pursuing the matter with CSIDC for early implementation.</p>	<p>ash is being used in dyke raising , embankment in NH road projects.</p> <p>NTPC -Sipat is doing sincere efforts to identify abandoned mine void for ash filling purpose. Govt land &amp; low lying area being developed by filling with ash &amp; top cover with good earth.To enhance dry fly ash utilization additional 4 number silos of capacity 6000 Ton with rail loading facility is under construction. However due to prevalent Pandemic Covid -19 condition &amp; lockdown in country , ash utilization in all fronts is badly affected &amp; due to which achieving 100% Ash Utilization target becomes extremely difficult in FY 2020-21.</p> <p>It is to be submitted that for setting up of ash based industries in 70 acre land, NTPC Sipat had approached the Chattisgarh Govt. After discussions and follow up, it was agreed that Chattisgarh State Industrial Development Corporation (CSIDC) shall proceed for a land which has been identified in Saler Village, near NTPC Sipat, in Bilaspur district. On 24-05-2016 possession of the land had been given to</p>
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			CSIDC. Further, CSIDC has got approval for Land diversion from Agricultural to Industrial use. Land diversion from Agricultural to Industrial use needs notification in Gazette, which is expected soon. NTPC has been continuously following up with the Govt of CG for compliance of this condition. In light of the above stated facts, it is clear that NTPC Sipat has complied and executed its part of EC condition.
3	Keeping in view the location of Sonthi Pahar Reserved Forest, additional Monitoring Station should be installed at the site to assess the ambient air quality. Monitoring should be initiated immediately to ascertain the project status and the scenario after commissioning of the project. A special study should be undertaken to ascertain impact of SO <sub>2</sub> on the flora in the project impact zone particularly the forest patches	<b>Being Complied</b> Ambient Air Quality monitoring at Sonthi Pahar reserve forest is in progress. Value of SO <sub>x</sub> are well within limit.  Study on terrestrial ecology was conducted in 2002 & in 2015 & study concludes that effect of NTPC- Sipat on Eco system is negligible. <b>( Annexure -A Table:III)</b>	<b>Complied</b> It is submitted that this condition is of regular monitoring nature & therefore it was marked in report as " Being Complied".
4	Regular monitoring for SPM, SO <sub>2</sub> , NO <sub>x</sub> around the power plant may be carried out and records maintained. A Monitoring Station should be established near Sonthi Pahar forest in NE direction of the power plant	<b>Being Complied</b> Regular monitoring of AAQ is being carried out around the plant. Ambient air quality is being monitored near Sonthi Pahar forest area since inception of plant. <b>( Annexure -A Table:III)</b>	<b>Complied</b> It is submitted that this condition is of regular monitoring nature & therefore it was marked in report as " Being Complied".
5	Since maximum concentration for SO <sub>2</sub> near Sonthi Pahar is likely to be close to permissible	<b>Being Complied</b> Continuous monitoring & analysis of ambient	<b>Complied</b> It is submitted that this condition is of regular

	levels for sensitive area, continuous monitoring and analysis of ambient air quality in the region should be undertaken during planning, construction and operational phase of the project.	air quality near Sonthi Pahar are being undertaken.( <b>Annexure -A Table:III</b> )	monitoring nature & therefore it was marked in report as " Being Complied".
6	Utilization of land for Stages I & II of the project shall be restricted to 4382.44 acres, which is already in possession of the project authorities.  70 acres of additional land will be acquired by M/s. NTPC for ash based units.	<b>Partially Complied</b> The project proponent( PP) has taken all steps to restrict the land utilization for Stage-I and II of Sipat STPP to 4382.44 acres.  70 Acre Land has been identified at Saler village of Bilaspur Tehsil to develop ash based industries. Land has been transferred from Chattisgarh State Industries department to CSIDC and further modalities are being worked out by CSIDC. NTPC is pursuing the matter with CSIDC for early implementation.	<b>Complied</b> It is submitted that The project has taken all steps to restrict the land utilization for Stage-I and II of Sipat STPP to 4382.44 acres.  It is to be submitted that for setting up of ash based industries in 70 acre land, NTPC Sipat had approached the Chattisgarh Govt. After discussions and follow up, it was agreed that Chattisgarh State Industrial Development Corporation (CSIDC) shall proceed for a land which has been identified in Saler Village, near NTPC Sipat, in Bilaspur district. On 24-05-2016 possession of the land had been given to CSIDC. Further, CSIDC has got approval for Land diversion from Agricultural to Industrial use. Land diversion from Agricultural to Industrial use needs notification in Gazette, which is expected soon. NTPC has been continuously following up with the Govt of CG for compliance of this condition. In light of the above stated facts, it is

			clear that NTPC Sipat has complied and executed its part of EC condition
7	Ash generated to the tune of 2.15 million tones per year shall be used in a phased manner as per the provisions of the Fly Ash Utilisation Notification of September, 1999 and its subsequent amendments. By the end of ninth year, full fly ash utilisation should be ensured. The cost of ash utilisation measures proposed in the total project cost should be intimated.	<p><b>Partially Complied</b></p> <p>In FY 2018-19, Ash utilization is 49.54%. Dry fly ash is being issued free of cost to fly ash brick manufacturers. Nearby cement industries are also getting fly ash from Sipat. Pond ash is being used in dyke raising. Pond ash being supplied to road projects for embankment filling, low lying area filling &amp; area development in outside NTPC land being done also.</p>	<p><b>Partially Complied</b></p> <p>It is submitted that Ash utilization at NTPC Sipat is on an increasing trend &amp; with it is likely to achieve 100% ash utilization by 2020-21. Dry fly ash is being issued free of cost to fly ash brick manufacturers. Near by Cement industries are getting fly ash free of cost from Sipat. Pond ash is being used in dyke raising , embankment in NH road projects.</p> <p>NTPC -Sipat is doing sincere efforts to identify abandoned mine void for ash filling purpose. Govt land &amp; low lying area being developed by filling with ash &amp; top cover with good earth. To enhance dry fly ash utilization additional 4 number silos of capacity 6000 Ton with rail loading facility is under construction. However due to prevalent Pandemic Covid -19 condition &amp; lockdown in country , ash utilization in all fronts is badly affected &amp; due to which achieving 100% Ash Utilization target becomes extremely difficult in FY 2020-21.</p>

8	<p>Details of the plan to develop ash utilizing industrial units in the 70 acre plot proposed by the project proponent should be worked out in consultation with the State Government and the draft plan in this regard should be submitted to MOEF within 6 months of environmental clearance. 70 acres of land will only be utilized for setting up ash based industries.</p>	<p><b>Partially Complied</b> 70 Acre Revenue Land had been identified at Saler village &amp; which has got transferred to Dept of Industries , Govt of Chattisgarh &amp; then to CSIDC. CSIDC has sought approval from concerned authorities &amp; the same is awaited. NTPC is pursuing the matter with CSIDC for early implementation.</p>	<p><b>Complied</b> It is to be submitted that for setting up of ash based industries in 70 acre land, NTPC Sipat had approached the Chattisgarh Govt. After discussions and follow up, it was agreed that Chattisgarh State Industrial Development Corporation (CSIDC) shall proceed for a land which has been identified in Saler Village, near NTPC Sipat, in Bilaspur district. On 24-05-2016 possession of the land had been given to CSIDC. Further, CSIDC has got approval for Land diversion from Agricultural to Industrial use. Land diversion from Agricultural to Industrial use needs notification in Gazette, which is expected soon. NTPC has been continuously following up with the Govt of CG for compliance of this condition. In light of the above stated facts, it is clear that NTPC Sipat has complied and executed its part of EC condition.</p>
9	<p>Regular monitoring of the air quality should be carried out in and around the power plant and records be maintained. Periodic six monthly reports should be submitted to this Ministry.</p>	<p><b>Being Complied</b> AAQ is monitored continuously through on line analyzers installed in plant premises and monitoring outside the plant is manually.</p>	<p><b>Complied</b> It is submitted that this condition is of regular monitoring nature &amp; therefore it was marked in report as " Being Complied".</p>

		Reports are being sent to Ministry, CPCB and CECEB as well.	
10	<p>A long term study on radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute.</p> <p>Thereafter mechanism for an in-built continuous monitoring of radioactivity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.</p>	<p><b>Partially Complied</b>  Study of radioactivity has been done by BARC Mumbai, and it is concluded that the radiation levels in and around the Sipat Super Thermal Power Station of NTPC Ltd., is comparable with the National average values. The naturally occurring radionuclide levels in groundwater / surface water / drinking water samples is observed well below the Atomic Energy Regulatory Board (AERB) and World Health Organization (WHO) prescribed limit / guideline values. The activity concentration of naturally occurring radio nuclides in soil, food matrices, flora and fauna is comparable to the national background levels.  Study on heavy metals in coal and fly ash was completed through IICT Hyderabad.</p> <p>PP informed that there is no technology/instruments available for in built continuous monitoring of radioactivity &amp; heavy metals in coal &amp; fly ash (including bottom ash) .As &amp; when technology/instruments is available then NTPC shall install the same.</p>	<p><b>Complied</b>  It is submitted that studies as directed have been completed and there is no adverse findings in report and hence therefore this condition has been complied with</p> <p>It is submitted that to the best of our knowledge , technology /instruments for continuous monitoring of radioactivity &amp; heavy metals in coal &amp; fly ash including bottom ash is not available in the country. Any breakthrough in this regard shall be taken up for implementation.</p>

11	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 point shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring of heavy metals in ground water shall be undertaken.	<p><b>Being Complied</b> PP has adopted ZERO Discharge methodology in their plant &amp; no water is being discharged from plant &amp; dyke area. Regular monitoring of ground water quality in surrounding villages being done. Heavy metal monitoring also being done in regular intervals.</p> <p>There is no Surface water bodies in the vicinity of project. However, distant surface water bodies namely Leelagarh river &amp; Kharang river water monitoring reports attached as ( <b>Annexure -A Table IV &amp; Annexure :11</b>)</p>	<p><b>Complied</b> It is submitted that this condition is of regular monitoring nature &amp; therefore it was marked in report as " Being Complied".</p>
12	Minimum required environmental flow suggested by the competent authority of the state Govt. shall be maintained in the channel/Rivers (as applicable) even in lean season.	<p><b>Being Complied</b> Water is sourced from Hasdeo RBC. Drawing lesser quantity of water than the allocated quantity by state irrigation department. NTPC-Sipat has surrendered 27 MCM water against allocated quantity of 120 MCM as per water agreement with Central Ground Water resource department.</p>	<p><b>Complied</b> It is submitted that this condition is of regular monitoring nature &amp; therefore it was marked in report as " Being Complied".</p>
13	Fly ash shall not be used for agriculture purpose. No mine void filling will be undertaken as an option for ash utilization with out adequate lining of mine with suitable media such that no leachate shall takes place at any point of time. In case, the option of mine void filling is to be adopted, prior	<p><b>Being Complied</b> PP informed that fly ash utilization will be complied after getting the identified mine and related approvals from concerned agencies.</p>	<p><b>Complied</b> It is submitted that this condition is complied with.</p>



	<p>detail 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.</p>		
14	<p>CSR schemes should address Public hearing issues and shall be undertaken based on need base assessment in and around the villages within 5 Km of the site and in constant consultation with the village panchayat and the district administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Development of fodder farm, fruit bearing orchard, vocational training etc. can form a part of such programmes. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programmes for possible self employment and jobs shall be important to identify villagers free of cost</p>	<p><b>Being Complied</b> Under the CSR scheme, different activities are being carried out. PP has submitted the details in ( <b>Annexure - 12 (a,b) )</b></p>	<p><b>Complied</b> It is submitted that this condition is complied with.</p>
15	<p>The environment statement for each financial year ending 31st march in form-V as is mandated to be submitted by the project proponent to the concern state pollution control board as prescribed under the Environment (protection) rule, 1986, as amended subsequently, shall also to be put on the website of the company along with the status of compliance of Environmental clearance conditions and shall also be sent to the respective regional offices of the ministry by e mail.</p>	<p><b>Being Complied</b> Environment statement for Fy2018-19 has been submitted on 09.05.2019 ( <b>Annexure-15</b>)</p>	<p><b>Complied</b> It is submitted that this condition is complied with. It is further submitted that Environment statement for Fy2019-20 has been submitted on 11.04.2020.</p>

16	<p>Top surface of the coal wagons shall be completely covered with tarpaulin sheet/Cloth so that coal will not get exposed to atmosphere and becomes secondary emissions. This will avoid fugitive dust emissions during the transport. Water sprinkling shall be done on the top surface of coal at loading point before covering with tarpaulin sheet. Due safety procedures shall be followed so that the covered sheet doesn't open up and fly away during transport which will endanger safety of nearby people, agricultural fields, etc. Water sprinkling measures as proposed at loading and unloading point shall be continued. Progress report of implementation shall be submitted to this ministry and concerned Regional office as part of Compliance report.</p>	<p><b>Partially Complied</b> PP informed that matter has been put up before MOEF &amp; CC for exemption this condition. PP has made request to MOEF &amp; CC New Delhi on 06.06.2019( Copy Enclosed)</p> <p>&gt; Research Designs &amp; Standards Organization ( RDSO) is yet to come out with provision for covering Bogie Open Bottom Rapid Discharge ( BOBR) wagons with tarpaulin sheet/ cloth.</p> <p>&gt; Water Sprinkling on top surface of coal at loading point is being done on each wagon being loaded. Water sprinkling measures at loading , unloading &amp; mid way point is continued as a regular practice.</p>	<p><b>Complied</b> It is submitted that Top surface of the coal wagons covering with tarpaulin sheet condition exemption has been granted by MoEF vide letter no J-13011/10/1996-IA.II(T) dated 09.10.2019</p> <p>R&amp;D activity of developing a mechanical sliding of the cloth cover wagon top which should be easily closed/opened with mechanical arrangement is being taken up with RDSO, a designer of our coal wagons. Any breakthrough in this regard, as and when intimated to us, will be taken up for implementation.</p> <p>Water sprinkling on top surface of coal at loading point is being done on each wagon being loaded. Water sprinkling measures at loading, unloading ,mid-way point &amp; 1/2 km before entry is continued as a regular practice.</p>
17	<p>Dense avenue plantation shall be developed on either side of the track wherever habitations/agricultural lands exists in consultation with local forest department to minimize the dust and noise pollution.</p>	<p><b>Being Complied</b> To provide green belt along railway track of MGR, a large scale tree plantation scheme has been adopted. Plantation of <b>22,975</b> plants along the MGR track has been</p>	<p><b>Complied</b> It is submitted that To provide green belt along railway track of MGR, a large scale tree plantation scheme has been adopted. Plantation of <b>48919</b> plants along the MGR</p>

		completed on 30.09.2018 through CGRVVN Ltd. Bilaspur.( <b>Annexure-17)</b>	track has been completed on 30.04.2020 through CGRVVN Ltd. Bilaspur.
18	AAQ monitoring within 1 km on either side of track, close proximity to nearby habitation, shall be continued once in a quarter and the progress report shall be submitted.	<b>Being Complied</b> AAQ monitoring along MGR within 1 km at six locations by MOEF approved third party is being done, report attached till March - 2019 as Annexure-B. All average values are within limit of 24 hr average.( <b>Annexure-B)</b>	<b>Complied</b> It is submitted that this condition is of regular monitoring nature & therefore it was marked in report as " Being Complied".
19	Health survey study of the local people shall be carried out.  The report should clearly bring out the impact on surrounding forests, agriculture/crop patterns, percentage of yield, public health due to open wagon coal transportation, etc.	<b>Partially Complied</b> Complete report is available. It has been mentioned in the conclusion that "the prevalence of Chronic Obstructive Pulmonary Disease ( COPD ) found in our study is similar with the prevalence of COPD among non-coal dust exposure area in the country".  > Study for impact on forest, crop etc started by TCB College of agriculture, Bilaspur in progress	<b>Complied</b> It is submitted that Complete report is available. It has been mentioned in the conclusion that "the prevalence of COPD found in our study is similar with the prevalence of COPD among non-coal dust exposure area in the country".  It is submitted that Study for impact on forest, crop etc carried out by TCB College of agriculture, Bilaspur. Study is completed and there is no adverse findings in report
20	As stipulated by the earlier EAC on 31.03.2016, PP should study alternative methodologies/technologies being utilized including abroad, to prevent coal dust blow from moving open wagons carrying coal, if any. The results of this study should be submitted within one year.	<b>Being Complied</b> PP informed that they are exploring alternative technologies /methodologies carried out by RDSO, a designer of our coal wagons. Any breakthrough in this regard, as and when intimated to them, will	<b>Complied</b> It is submitted that R&D activity of developing a mechanical sliding of the cloth cover wagon top which should be easily closed/opened with mechanical arrangement is being taken up with RDSO, a



		be taken up for implementation.	designer of our coal wagons. Any breakthrough in this regard, as and when intimated to us, will be taken up for implementation.
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Submitted please for perusal of the Committee constituted on 14.02.2019 in O.A. No. 200/2018, Dukalu Ram & Ors. V Union of India & Ors as directed by NGT at Para 11 of the order dated 27.02.2020.

*Ameyendra*

30/05/2020

सपनशास्त्रिक ( पर्यावरण प्रकल्प )  
**AGM (EMG)**  
 एनटीपीसी लि. सीपत, बिलासपुर (छ.ग.)  
 NTPC Ltd. SIPAT, BILASPUR (C.G.)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 459/2018  
Earlier 196/2014 (CZ)

Rashmi Singh Vs NTPC Ltd. & Ors

SUBMISSIONS BY RESPONDENT No. 1 IN COMPLIANCE TO ORDER OF NGT  
DATED 27-02-2020 PASSED BY HON'BLE TRIBUNAL.

In compliance of the order of Hon'ble Tribunal, Principle Bench NGT at New Delhi, passed in the above matter on 27.02.2020, Respondent No. 1 hereby makes the following submissions :-

That the applicant has filed an affidavit before this Hon'ble tribunal on 27-02-2020 in reference to the status report submitted by the Regional Office, MoEF& CC Nagpur dated 20-06-2019 and stated non-compliance of the EC conditions in Para 3 of above said report. It is significant to note the Title of Para 3 of the Inspection report is - "Some of the EC conditions were observed to be complied partially by the PP". Therefore, Applicant's Claim of non-compliance of EC condition is prejudiced, wrong and denied. Para wise reply to the submissions made by Applicant is given here.

**Para 1**

The EC of Stage-I (3 x 660 MW) issued on 22-02-1999 specifies for transportation of coal in closed wagon. NTPC Sipat had taken up this issue with MoEF& CC citing the constraints in transportation of coal in closed wagons. Accordingly, EAC (Thermal Power) had considered the submissions made by *NTPC Sipat*. **In accordance with the recommendations made by EAC, the MoEF& CC has accorded permission for waving the condition of transportation of coal with tarpaulin covered wagons vide its EC**

**amendment letter dated 09-10-2019 subject to certain conditions.** EC amendment dated 09-10-2019 is placed as **Annexure-1**. NTPC Sipat is abiding the conditions mentioned in the amendment letter i.e. water sprinkling at loading point , unloading point , midpoint & ½ km before entry point being done regularly and is therefore in total compliance with this EC condition.

**Para 2**

It is to be submitted that for setting up of ash based industries in 70 acre land, NTPC Sipat had approached the Chattisgarh Govt. After discussions and follow up, it was agreed that Chattisgarh State Industrial Development Corporation (CSIDC) shall proceed for a land which has been identified in Saler Village, near NTPC Sipat, in Bilaspur district. On 24-05-2016 possession of the land had been given to CSIDC. Further, CSIDC has got approval for Land diversion from Agricultural to Industrial use. Land diversion from Agricultural to Industrial use needs notification in Gazette, which is expected soon. NTPC has been continuously following up with the Govt of CG for compliance of this condition. In light of the above stated facts, it is clear that NTPC Sipat has complied and executed its part of EC condition and therefore the contention of the Applicant that above EC condition is not being complied with, is totally false.

**Para -3**

In response to para 3, it is agreed that the total land acquired for the project is 4382.44 acres only. All the three ash dykes are well managed and there is no leakage from any of ash dyke. Ash dykes are designed and built with Ash Water Recirculation System (AWRS). Decanted water from Ash Pond is collected in overflow lagoon wherefrom water is pumped back into plant and reused in ash slurry process water. Toe drain water from all the three dykes are collected in

two sumps & from where it is pumped back into the over flow lagoon / ash dyke. Two Toe drain Recirculation Pump house are operational. With the above arrangement , it is ensured that all process water is reused and nothing goes out. Even after taking such care, the Applicant is alleging that 200 acres of land has got marshy due to leakage from Ash dams/dyke, which is totally false and baseless

It is to be further noted that there is no such revelation in any of the inspection report submitted either by CECB or MoEF& CC regional office Nagpur.

**Para 4**

It is to be submitted that over the years, ash utilisation percentage of NTPC Sipat improved from 18.63 % in 2017-18 to 49.54 % in 2018-19 and we expect 100 % ash utilisation by 2022 as per action plan submitted to CECB. NTPC Sipat is supplying ash to Cement Industries, Ash based Industries, NHAI Bilaspur – Patharapali highway projects, land reclamation and also in ash dyke embankment raising as a substitute for sand and earth.

**Para 5**

It is to be submitted that the analysis of study on heavy metals in coal and fly ash has already been furnished to MoEF& CC by NTPC Sipat vide half yearly reports. Heavy Metal content in fly ash and bottom ash has been carried out by IICT Hyderabad and last analysis report conducted on 29-05-2017 is placed as

**Annexure-2. Hence the contention of Applicant is absolutely false, vague and baseless.**



**Para 6**

The Study for impact on Forest, Crops etc was awarded to TCB College of Agriculture, Bilaspur. During study the three season samples had been collected and analysed. Study is completed and there is no adverse findings in report and hence therefore this condition has been complied with.

**Para 7**

It is to be submitted that Complaint case no. 7893 of 2014 was filed before CJM court at Bilaspur. The complaint has been challenged in the CG high court by NTPC Sipat for quashing the same. Stay has been granted by the High Court.

Petition No. OA No. 195/2014 (CZ) filed before Hon'ble NGT, Central Zone at Bhopal has been dismissed in favour of NTPC Sipat on 19-02-2019.

Present matter Original Application No. 459/2018 (earlier OA No. 196/2014) is being heard by Principle Bench of NGT at New Delhi.

**Para 8**

Financial data furnished by MoEF& CC, pertains to the Capital expenditure on Pollution control equipments like ESPs& ETPs under Environmental Management Plan (EMP). Details are available at **(Annexure - 3)**. **However intent of Applicant is not clear in stating that no breakup/item wise have been provided to ascertain the actual use.**

**Para 9**

NTPC Sipat is Zero Liquid Discharge compliant Thermal Power Station. Ash dykes are designed and built with Ash Water Recirculation System(AWRS) for reclaiming process water. Decanted water from AWRS is collected in overflow lagoon wherefrom water is pumped back into plant and reused in ash slurry



process water. The drain water from all the three dykes are collected in two sumps. This collected water is pumped back into overflow lagoon/ ash dyke. There is no discharge of water from any of the ash dykes to outside. The allegation of Applicant is therefore false and misleading.

It is further submitted that water samples of decanted water from AWRS is taken at regular interval and monthly report are submitted to CECB.

**Para 10**

Coal linkage for NTPC Sipat Super Thermal Power Station is from Dipka mines of SECL. Accordingly, coal is sourced from Dipka mines (which falls in Korba District of Chhattisgarh State) as per fuel supply agreement. NTPC Sipat in its support had submitted a report of study which was carried out by Centre for Energy Studies, IIT Delhi. The Table-2 in the report indicates that sulphur content in Korba, Chhattisgarh region is 0.4 %. The report is available as Annexure RR-1/8 from page 53 to page 59 submitted on 18-01-2016 before Hon'ble Tribunal at Bhopal. Latest Sulphur content reports are also placed as **Annexure-4.**

**Para-11**

As per EC stage-I dated 22.02.1999(vii) a greenbelt of covering an area of 215 acre shall be developed with tree density of 1500 - 2000 Per Ha. NTPC Sipat has green belt area of more than 215 acre. Map Indicating green belt area is attached as **Annexure-5**

**Para-12**

Over the years, our ash utilization has improved from 18.63 % in 2017-18 to 49.54 % in 2018-19 and we expect to achieve 100 % ash utilization by 2022 as

per action plan submitted to CECB. NTPC Sipat is supplying ash to Cement Industries, Ash based Industries, NHAI Bilaspur – Patharapali highway projects, land reclamation and also in ash dyke embankment raising as a substitute for sand and earth. In the light of this we strongly disagree and deny the allegation by Applicant that ash utilization figures submitted by NTPC Sipat are “blatant lie being spoken by the NTPC” and “ash is being discharged in the agricultural fields”.

Ambient Air Quality including SO<sub>2</sub> is measured bi-weekly at Sonthi Pahar, Reserve Forest area. Presently, this work has been outsourced to an Agency M/S Netel India Ltd who is an MoEF & CC approved agency for such type of work. Monthly reports are submitted to CECB. Measured values are well below prescribed limits. Latest Monthly report is attached as **Annexure-6**.

NTPC Sipat was based on Super Critical Thermal Power technology hence scope of employment was very limited. It was also considered that agriculture was the predominant occupation of the affected area and as per the Socio Economic Study, 80 % of the affected persons were farmers. Considering these facts, “Land for Land’ was the Prime Rehabilitation measure included in the Rehabilitation Action Plan 2000 -RAP (as described in Chapter - II of the RAP), so that the Project Affected Person (PAPs) could purchase alternate land of their choice. In Accordance with the provision for “Land for Land” option of rehabilitation all PAPs have been provided compensation & also rehabilitation amount to facilitate them to buy alternate land. Further on purchase of alternate land the PAPs have also been provided the Land Registration & Development charges.

It may be mentioned here that the fact that NTPC has completed rehabilitation activities under the Rehabilitation Action Plan was also observed and recorded in the minutes of the meeting dated 03.11.2006.

Subsequently, based on the decisions of a tripartite meeting in 2008 it was agreed to provide employment on 626 posts from a Priority List of PAPs provided by District Administration following NTPC's recruitment Policy & Govt.'s Rule of Reservation as applicable. Based on the decisions of the tripartite meetings since 2008, NTPC Sipat has so far conducted recruitment on 427 posts out of which Offer of appointment has been issued in 395 cases while in another 32 cases Offer of appointment could not be issued due to family dispute/ lack of documents etc.

Delay in completing recruitment on remaining posts is attributed to the following facts:-

- a) Lack of Skill in the PAPs for the skilled/ technical posts- For this NTPC has taken measures like sponsoring over 240 candidates in the past for two year ITI . Similar measures are being taken for other skilled posts
- b) Out of the remaining posts, 154 are reserved for Scheduled Tribes (including backlog of ST). However, sufficient Scheduled Tribe candidates are not available in the Priority List provided by District Administration - for this guidance is sought from district administration on this issue which is awaited.

On resolution of the above two issues the recruitment on the remaining posts shall be completed. Intent of Applicant is not clear with respect to her submission in this regard as this has no bearing with respect to EC conditions.

NTPC Sipat is Zero Liquid Discharge compliant Thermal Power Station. Ash dykes are designed and built with Ash Water Recirculation System (AWRS) for reclaiming process water. Decanted water from AWRS is collected in overflow lagoon wherefrom water is pumped back into plant and reused in ash slurry



process water. Toe drain water from all the three dykes are collected in two sumps. This collected water is pumped backed into overflow lagoon/ ash dyke. There is no discharge of water from any of the ash dykes to outside. The allegation of Applicant is therefore false and misleading.

Coal linkage for NTPC Sipat Super Thermal Power Station is from Dipka mines of SECL. Accordingly, coal is sourced from Dipka mines (which falls in Korba District of Chhattisgarh State) as per fuel supply agreement. NTPC Sipat in its support had submitted a report of study which was carried out by Centre for Energy Studies, IIT Delhi. The Table-2 in the report indicates that sulphur content in Korba , Chhattisgarh region is 0.4 %. The report is available as Annexure RR-1/8 from page 53 to page 59 submitted on 18-01-2016 before Hon'ble Tribunal at Bhopal. Latest Sulphur content reports are also placed as **Annexure-4.**

Applicant's allegation regarding FGD progress is false and denied. The work order for FGD installation has been awarded for stage-I units (3 x 660 MW). Completion schedule for unit -1 & 3 is by Nov -2021 and for Unit -2 by Feb 2022. Copy of notification of award is attached as **Annexure-7.** For Stage- II (2 x 500 MW) units, proposal for installation of FGD is under tendering stage.

Real time values of Ambient Air Quality, Stack emission and treated effluent (which is used as process water) is available to CPCB as well CECB.

Submitted please for perusal of the Committee constituted on 14.02.2019 in O.A. No. 200/2018, Dukalu Ram & Ors. v. Union of India & Ors as directed by NGT at para 13 of the order dated 27.02.2020.

  
ANURAG SHUKLA  
उपमहाप्रबंधक ( पर्यावरण प्रबंधन )  
DGM (EMG)  
एनटीपीसी लि. सीपत, बिलासपुर (छ.ग.)  
NTPC Ltd. SIPAT, BILASPUR (C.G.)



**J-13011/10/96-IA. II (T)**  
**Government of India**  
**Ministry of Environment, Forests and Climate Change**

3<sup>rd</sup> Floor, Vayu Block,  
Indira Paryavaran Bhawan,  
Jor Bagh Road, Aliganj  
New Delhi-110003  
Dated: 09.10.2019.

To,

The GM&HOD (Environmental Engineering)  
M/s NTPC Limited  
Engineering Office Complex,  
NTPC Ltd, Plot No. A-8A, Sector-24  
Noida - 201301.

**Tele:** 01202416930; **Fax:** 0120 2410206; **E-mail:** environment.ntpc@gmail.com.

**Sub: 3x660 MW (Stage-I) Sipat Super Thermal Power Project, Village Sipat, Tehsil Masturi at District Bilaspur, Chhattisgarh by M/s NTPC Ltd. - reg. amendment in EC.**

Sir,

The undersigned is directed to refer to your online application no. IA/CG/THE/107493/2019 dated 14.6.2019 requested for amendment in the Ministry's permission dated 17.5.2018 regarding transportation of coal with open wagons instead of tarpaulin covered wagons.

2. It has been noted that EC was accorded by MoEF for 2000 MW (4x500) on 22.02.1999 and subsequent amendments/letters dated 14.01.2000, 30.04.2002 and 08.09.2014 for change of fuel composition, change in configuration (from 4x500 MW to 3x660 MW) and temporary permission for transportation of coal by open wagons for one year respectively. However, permission for transportation of coal by open wagons is accorded vide Ministry's letter dated 8.9.2014 for one year with the stipulation that within one year, NTPC shall come out with a plan of carrying coal in a cleaner way. Subsequently, Ministry vide letter dated 8.2.2017 issued temporary permission for one more year (till 31.1.2018) to transport coal in open wagons covering with tarpaulin cover. The Ministry vide letter dated 17.5.2018 permitted coal transportation in open wagons with a condition that wagons are to be covered with tarpaulin sheet/cloth.

3. It has been informed by you that the covering wagons requires manual process of covering and uncovering which is not feasible to transport the coal 9.82 million tonnes per annum using covered wagons. It takes about six persons each to cover and uncover two wagons at mine and power plant end respectively. The time required for covering is about 15 minutes while the same for uncovering is about 5 minutes. It has been informed that it takes an additional time of an hour for covering and uncovering work, which is not envisaged in the design of MGR system which leads to delay in supply of coal to power plant and disturbs the schedule of coal transportation in MGR route. The cycle time increases by nearly 2 hours which will reduce 4 rakes/day. The present capacity of 16-17 rakes/day (44,000 MT/day) will reduce down to 12-13 rakes/day (33,000 MT/day) which is far less than our daily coal consumption of 44,000 MT/day. Further, use of tarpaulin sheets shall lead to environmental hazard and generation of plastic wastes.

4. It has been informed that the ~~additional infrastructure is required to be built~~ to accommodate this activity such as working platform, lighting, labour rest rooms,

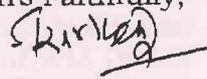
drinking water facility at loading and unloading end. There is a space constraint to construct this infrastructure. It has been informed that water sprinkling is being done at four points along the total stretch of 42 km viz. loading, unloading points, ½ km before entry, at 22km chainage point (mid-section) to ensure air pollution is not caused due to transportation and loading/unloading operations.

5. The proposal has been considered by the EAC (Thermal Power) in its 29<sup>th</sup> meeting held on 26.6.2019. In acceptance of the recommendations of the re-constituted Expert Appraisal Committee (Thermal Power) held on 26.6.2019 and in view of the information/clarification furnished by you, with respect to the above mentioned power project, **the Ministry hereby accords the permission for waiving the condition of transportation of coal with tarpaulin covered wagons subject to following additional conditions:**

- i. As proposed, the water sprinkling at four points viz. loading point, unloading points, ½ km before entry, at 22 km chainage point (Mid Section) shall be carried out to keep the coal wet and to control dust generation.
  - ii. NTPC being a large consumer of coal, should take up an R&D activity of developing a mechanical sliding of the cloth over wagon top which should be easily closed/opened with mechanical arrangement and should also not hamper loading operations. Once successful, this can be replicated in the country as best environmental practice to prevent air pollution from coal. This will also prevent oxidation.
6. All other conditions mentioned in this Ministry's letters of even no. dated 22.2.1999, 14.1.2000, 30.4.2002, 8.9.2014, 8.2.2017 and 17.5.2018 shall remain the same, as applicable.

This issues with the approval of the Competent Authority.

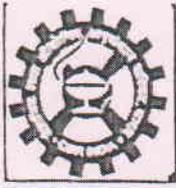
Yours Faithfully,

  
**(Dr. S. Kerketta)**  
**Director, IA.I**

Copy to:-

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-440001.
5. The Member secretary, Chhattisgarh Pollution Control Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002
6. The Principal Secretary, Department of Environment, Government of Chhattisgarh, Room No. 308, D.K.S. Bhawan, Mantralaya, Raipur, Chhattisgarh - 492001.
7. The District Collector, Bilaspur District, Govt. of Chhattisgarh, Bilaspur (C.G.)-495001.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.

  
**Director, IA.I**

BY SPEED POST

INDIAN INSTITUTE OF CHEMICAL  
TECHNOLOGY  
(Council of Scientific & Industrial Research)  
HYDERABAD- 500007



Dr.R.Srinivas  
Chief Scientist & Head  
Analytical Chemistry Division

Phone No: 040-27191342  
Fax No: +91-040-27193156  
E-mail: [srini@iict.res.in](mailto:srini@iict.res.in)

Ref: ACMS/NTPC/2017

Date: 29-05-2017

To:  
Mr.Pankaj Sharma,  
Dy .General Manager (EMG),  
Sipat Super Thermal Power Station,  
Ujjawal Nagar(P.O),  
SIPAT,  
Bilaspur Distt,  
Chhattisgarh-495 555.

*Ujjawal*  
*06.06.17*

- manager (EMG)

Dear Sir,

This is with your reference no :Sipat/Envl./2017/1352 and letter dated 07-02-2017 regarding the analysis of Coal, Fly ash and Bottom ash samples and the report for the same is given below.

**Analysis Report**

S.No	Parameters	Coal Fried Unit#1	Coal Fried Unit#4	Fly Ash	Fly Ash Silo Stage Unit #4	Bottom Ash Unit#1	Bottom Ash Unit#4
1	Al (% by mass)	2.35	1.52	3.38	9.78	6.34	6.55
2	As (µg/g)	13.89	7.26	25.60	30.33	26.70	18.92
3	Cd(µg/g)	0.27	0.14	0.79	0.53	0.21	0.19
4	Co(µg/g)	10.59	13.79	19.62	20.83	10.97	11.11
5	Cr(µg/g)	64.87	45.87	96.03	101.25	69.40	73.21
6	Cu(µg/g)	15.85	148.88	58.35	62.31	33.15	29.11
7	Fe (% by mass)	1.24	1.72	1.89	1.75	0.83	2.54
8	Mn(µg/g)	70.60	308.36	67.21	139.54	158.58	148.83
9	Hg(µg/g)	1.11	0.48	0.64	0.85	B.D	B.D
10	Ni(µg/g)	28.14	26.25	27.88	31.78	16.30	17.32
11	Pb(µg/g)	15.46	15.62	20.11	36.05	7.98	11.86
12	Zn(µg/g)	57.25	18.10	38.40	41.38	31.75	19.32

B.D: Below Detection Limit

Analyzed by

Scientist-in-Charge

for Director

1. This Certificate refers to sample(s) examined only.
2. These Results should not be used for commercial purpose (Advertisement).

Annexure-3

**Capital Expenditure on Environment Management Plan**

Sl No.	Pollution control Equipment/System	Capital Expenditure ( Rupees In Crore)
1	ESP ( Electro static precipitator)	490.7
2	STP( Sewarage treatment plant)	2.81
3	ETP ( effluent treatment plant)	56.02
4	EQMS( Effluent quality monitoring system)	0.37
5	CEMS ( Continuous Emission monitoring system)	0.303
6	AAQMS ( Ambient air quality monitoring system)	1.04
7	AWRS ( ash water recovery system)	10.31
8	Ash Dyke & toe drain pump house	175.79
	<b>Total</b>	<b>737.343</b>



CHEMISTRY COAL LAB  
NTPC LTD-SIPAT  
Ujjwainagar, Sipat  
Bilaspur, Cg  
PIN: 495 555



Certificate No: T-3241  
NTPC-LQMS-44

E-mail id:  
[dileepmishra@ntpc.co.in](mailto:dileepmishra@ntpc.co.in)

TEST-REPORT

1. Report No : CHEM/DPK/01-02  
2. Issued To : CHEM/NTPC/MGR  
3. Date of Issue : 29/02/2020

Laboratory Environmental Details

Temperature: 24°C

Relative Humidity: 38 %

S.No.	Sample Description	Unit of Measurement	Test Protocol	Test Results
1	Dipka Coal UL-25.01.2020	%	Sulphur Content ASTM D-4239-12	0.38
2	Dipka Coal UL-26.01.2020			0.40
3	Dipka Coal UL-01.02.2020			0.39
4	Dipka Coal UL-03.02.2020			0.40
5	Dipka Coal UL-22.02.2020			0.41
6	Dipka Coal UL-27.02.2020			0.41

*(Handwritten signature)*

दिलीप मिश्रा  
DILEEP MISHRA  
श्री. प्रबन्धक (रासायन)  
Sr. Manager (Chemistry)  
एन टी पी सी लि., सीपट, बिलासपुर (छ.ग.)  
NTPC Ltd., SIPAT, Bilaspur (C.G.)

Terms & Conditions

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2. Samples will be disposed after 15 days from the date of issue of test report unless otherwise specified.
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4. In case any reconfirmation of content of this test certificate is required, Please contact our Office.

*(Handwritten signature)*

**CHEMISTRY COAL LAB**  
**NTPC LTD-SIPAT**  
Ujjwalnagar, Sipat  
Bilaspur, Cg  
PIN: 495 555



Certificate No: T-3241  
NTPC-LQMS-44

E-mail id:  
[dileepmishra@ntpc.co.in](mailto:dileepmishra@ntpc.co.in)

**TEST-REPORT**

1. Report No : CHEM/DPK/03  
2. Issued To : CHEM/NTPC/MGR  
3. Date of Issue : 13/03/2020

Laboratory Environmental Details

Temperature: 24°C

Relative Humidity: 38 %

S.No.	Sample Description	Unit of Measurement	Test Protocol	Test Results
1	Dipka Coal UL-11.03.2020	%	Sulphur Content ASTM D-4239-12	0.41
2	Dipka Coal UL-12.03.2020			0.40

दिलीप मिश्रा  
DILEEP MISHRA  
ज्येष्ठ प्रबंधक (रासायन)  
Sr. Manager (Chemistry)  
एन टी पी सी लि., सीपट, बिलासपुर (उ.प्र.)  
NTPC Ltd., SIPAT, Bilaspur (C.G.)

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CHEMISTRY COAL LAB  
NTPC LTD-SIPAT

Ujjwalnagar, Sipat  
Bilaspur, Cg  
PIN: 495 555



Certificate No: T-3241  
NTPC-LQMS-44

E-mail id:  
[dileepmishra@ntpc.co.in](mailto:dileepmishra@ntpc.co.in)

TEST-REPORT

1. Report No : CHEM/DPK/08-09
2. Issued To : CHEM/NTPC/MGR
3. Date of Issue : 26/09/2019

Laboratory Environmental Details

Temperature: 24°C

Relative Humidity: 38 %

S.No.	Sample Description	Unit of Measurement	Test Protocol	Test Results
1	Dipka Coal UL-19.08.2020	%	Sulphur Content ASTM D-4239-12	0.41
2	Dipka Coal UL-21.08.2019			0.38
3	Dipka Coal UL-22.08.2019			0.40
4	Dipka Coal UL-24.08.2019			0.41
5	Dipka Coal UL-10.09.2019			0.37
6	Dipka Coal UL-25.09.2019			0.40

*(Handwritten signature)*

दिलीप मिश्रा  
DILEEP MISHRA  
Sr. Manager (Chemistry)  
NTPC Ltd., SIPAT, Bilaspur (C.G.)

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4. In case any reconfirmation of content of this test certificate is required, please contact our Office.

*(Handwritten signature)*



**ENVIRONMENTAL MONITORING AT SONTHI PAHAR, SIPAT**

**NAME OF CLIENT** : SIPAT SUPER THERMAL POWER PROJECT  
NTPC LIMITED  
UJJWAL NAGAR  
SIPAT, DIST: BILASPUR  
CHHATISGARH ; 495555

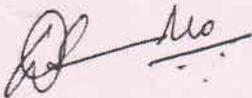
**NAME OF CONTRACTOR** : NETEL (INDIA) LIMITED  
ENVIRONMENT MANAGEMENT SERVICES  
W-408, RABALE-MIDC  
TTC INDUSTRIAL AREA, NAVIMUMBAI.

**NATURE OF JOB** : AMBIENT AIR QUALITY MONITORING AT SONTHI PAHAR RESERVE  
FOREST AREA, SIPAT DIST: BILASPUR, CHHATTISGARH

**LOA** : NTPC/SSC-WR-II/9900185671, Dt:25.10.2019

**DURATION OF PROJECT** : 2 YEAR (24 MONTHS)

For NETEL (INDIA) LIMITED



**D.SRINIVASA RAO**  
**REGIONAL MANAGER - EMS**

**D. Srinivasa Rao**  
**Regional Manager - EMS**  
**Netel (India) Limited**



**Sipat Super Thermal Power Project**  
**NTPC Ltd., Sipat-Bilaspur**

## INDEX

SR.	DESCRIPTION	PAGE NO
1	AMBIENT AIR QUALITY MONITORING AT BHARUADIH	3
2	RESULTS & DISCUSSION	4-5

SR.	DESCRIPTION	PAGE NO
EVALUATION GRAPH		
1	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , O <sub>3</sub> , CO, HC	6

**D. Srinivasa Rao**  
Regional Manager - EMS  
Netel (India) Limited

  
EIC  
Sipat Super Thermal Power Project  
NTPC Ltd., Sipat-Bilaspur

**TABLE: 01 Ambient Air Quality Monitoring Data**

LOCATION : BHARUADIH			Concentration of Pollutants								
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	O <sub>3</sub>	CO	HC		
			µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	ppm		
<b>PERMISSIBLE LIMITS</b>			100	60	80	80	100	2.0	-		
<b>DATE OF MONITORING</b>	<b>1st &amp; 2nd FORTNIGHT</b>	03-02-2020	53.0	31.8	20.3	24.1	20.0	0.573	0.518		
		06-02-2020	50.0	20.3	19.8	21.8	19.0	0.581	0.526		
		10-02-2020	52.5	18.4	20.8	23.1	18.0	0.577	0.522		
		13-02-2020	38.1	12.5	22.4	25.7	19.0	0.560	0.509		
		17-02-2020	50.7	28.0	20.3	22.2	18.0	0.556	0.520		
		20-02-2020	61.0	39.1	20.7	23.8	20.0	0.539	0.508		
		24-02-2020	56.4	23.8	19.4	21.0	19.0	0.544	0.517		
		27-02-2020	48.6	22.7	18.4	23.5	17.0	0.536	0.514		
		<b>Minimum concentration</b>			<b>38.11</b>	<b>12.50</b>	<b>18.41</b>	<b>21.00</b>	<b>17.00</b>	<b>0.536</b>	<b>0.508</b>
		<b>Maximum concentration</b>			<b>61.00</b>	<b>39.11</b>	<b>22.38</b>	<b>25.70</b>	<b>20.00</b>	<b>0.581</b>	<b>0.526</b>
<b>Average</b>			<b>51.30</b>	<b>24.58</b>	<b>20.26</b>	<b>23.14</b>	<b>18.75</b>	<b>0.558</b>	<b>0.517</b>		

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## RESULTS & DISCUSSION ON OBSERVATIONS

### **Respirable Particulate Matter (PM<sub>10</sub>)**

PM<sub>10</sub> concentrations at **BHARUADIH** were observed

- Range 38.1 to 61.0 µg/m<sup>3</sup>, with the
- Mean value as 51.30 µg/m<sup>3</sup> and the
- Limit: 100.0 µg/m<sup>3</sup>

### **Respirable Particulate Matter (PM<sub>2.5</sub>)**

PM<sub>2.5</sub> concentrations at **BHARUADIH** were observed

- Range 12.5 to 39.1 µg/m<sup>3</sup>,
- mean value as 24.6µg/m<sup>3</sup> and the
- Limit: 60.0 µg/m<sup>3</sup>

### **Sulphur Dioxide (SO<sub>2</sub>)**

SO<sub>2</sub> concentrations at **BHARUADIH** were observed

- Range 18.4 to 22.4µg/m<sup>3</sup>,
- The mean value as 20.26µg/m<sup>3</sup>
- Limit: 80.0 µg/m<sup>3</sup>

### **Oxides of Nitrogen (NO<sub>x</sub>)**

NO<sub>x</sub> concentrations at **BHARUADIH** were observed

- Range 21.0 to 25.7 µg/m<sup>3</sup>,
- Mean value as 23.14 µg/m<sup>3</sup>
- Limit: 80.0 µg/m<sup>3</sup>

### **O<sub>3</sub> (O<sub>3</sub>)**

O<sub>3</sub> concentrations at **BHARUADIH** were observed

- Range 17.001 to 21.00 µg/m<sup>3</sup>,
- Mean value as 18.75 µg/m<sup>3</sup>
- Limit: 100.0 µg/m<sup>3</sup>

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### Carbon Monoxide (CO)

CO concentrations at **BHARUADIH** were observed

- Range 0.536 to 0.581  $\mu\text{g}/\text{m}^3$ ,
- Mean value as 0.558  $\mu\text{g}/\text{m}^3$
- Limit: 2.0  $\text{mg}/\text{m}^3$

### Hydrocarbon as Methane (HC)

HC concentrations at **BHARUADIH** were observed

- Range 0.508 to 0.526 ppm,
- Mean value as 0.517 ppm
- Limit: No Limit Specified

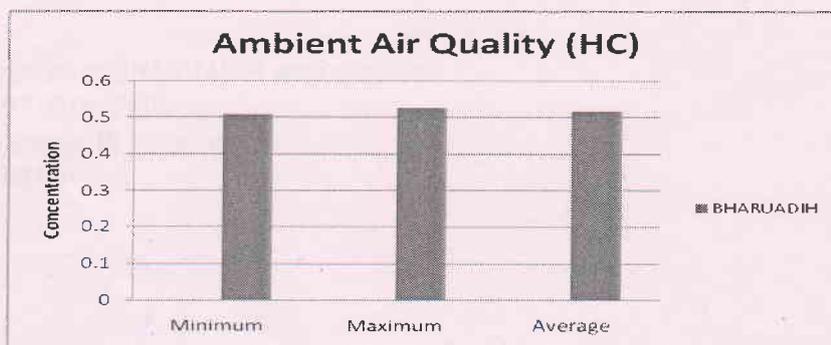
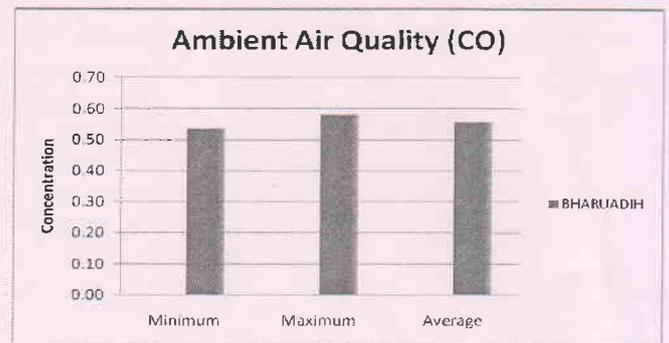
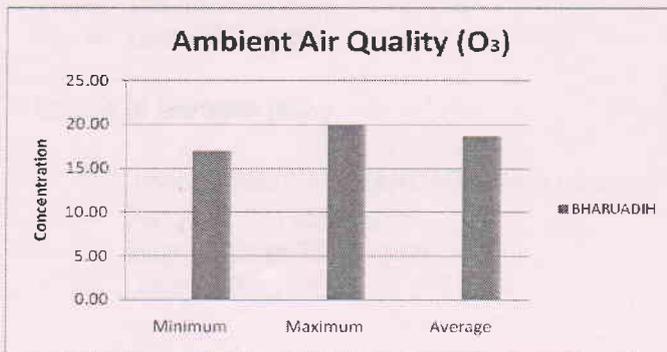
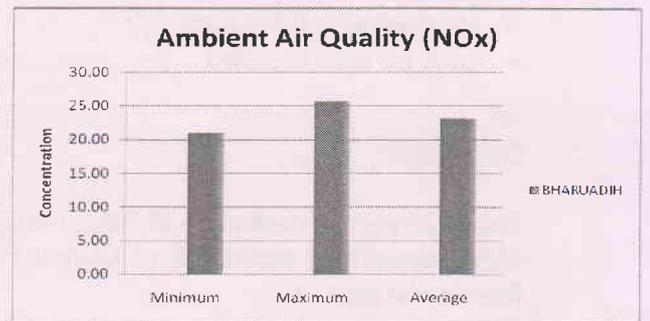
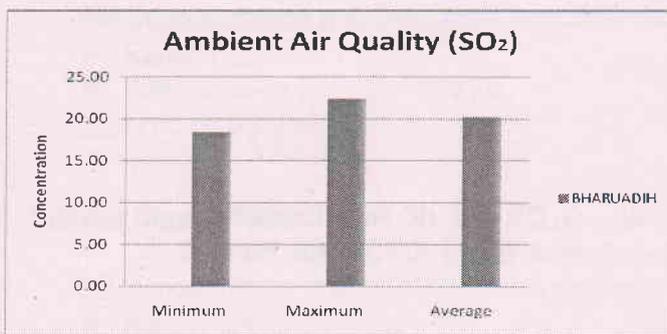
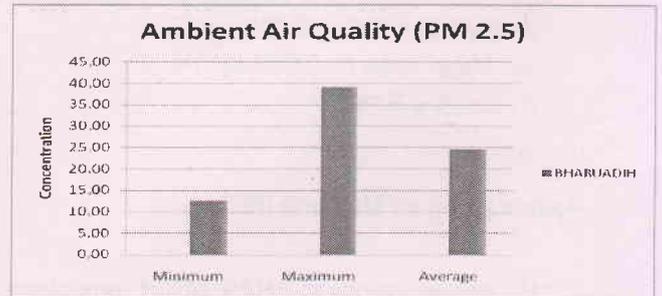
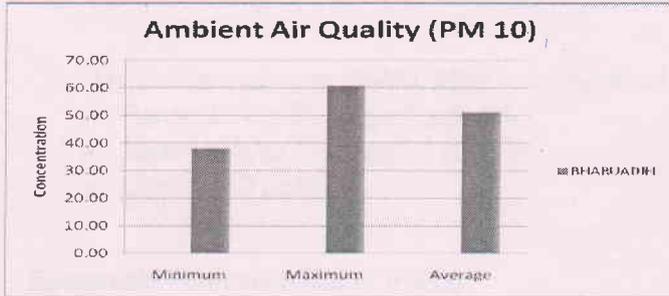
### Conclusion:

The observed concentration of  $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ ,  $\text{SO}_2$ ,  $\text{NO}_x$ ,  $\text{O}_3$ ,  $\text{CO}$  and HC were found to be within prescribed standards of Central Pollution Control Board (CPCB) for Rural & Residential area.

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## AMBIENT AIR QUALITY GRAPHS



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एन टी पी सी लिमिटेड

(भारत सरकार का उपक्रम)

**NTPC Limited**A Govt. of India Enterprise  
Formerly National Thermal Power Corporation Ltd.

केन्द्रीय कार्यालय/Corporate Centre

Ref. No.: CS-9518-109(2)-9-SC-NOA-6816

Date: 24.05.2019

M/s GE Power India Limited  
Plot No.7, IHDP Building,  
Sector-127, Noida-201301

Kind Attn.: Mr. Lalit Sankarni, Executive-Business Operations

Sub.: Notification of Award (NOA) for Inland Transportation, Inland Insurance, Installation, Testing &amp; Commissioning for Sipat Super Thermal Power Station Stage-I (3 x 660 MW) as per Common Bidding Document No. CS-0011-109(2)-9.

Dear Sir,

1.0 This has reference to the following:

- Our Invitation for Bids (IFB) No. 40087737 dated 31.08.2018 inviting Envelope-I (Techno-Commercial) Bids and IFB no. 40087818 for Envelope-II (Price) Bids.
- Bidding Documents for the subject package downloaded by you from SRM portal comprising the following:

S. No.	Description of Bidding Documents
1	Section-I : Invitation for Bids (IFB)
2	Section-II : Instructions to Bidders (ITB)
3	Section-III : Bid Data Sheets (BDS)
4	Section-IV : General Conditions of Contract (GCC)
5	Section- V : Special Conditions of Contract (SCC)
6	Section-VI : Technical Specifications including Tender Drawings and Technical Data Sheets
7	Section-VII : Forms & Procedures (FP) consisting of Part-1 of 3, Part-2 of 3 and Part-3 of 3

- Various Amendments/Clarifications/Errata issued to the Bidding Documents for the subject package as per details given below:

*JS*  
श्रीश सिंह / SHRISH SINGH  
उप महाप्रबन्धक (सविदा सेवाएं)  
Dy. General Manager (Contract Services)  
एन टी पी सी लिमिटेड / NTPC Limited  
BCC, A-8A, Sector-24, NOIDA-201301 (U.P.)



अभियांत्रिकी कार्यालय परिसर, प्लॉट नं. ए - ८ ए, सेक्टर 24, नोएडा (उ.प्र.), पिन: 201301  
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