



Ref. No. Env/Six-EC-VI/ 016

Date: 23/05/2023

The Dy. Director,
Regional Office (Central)
Ministry of Environment and Forest and Climate Change,
Government of India,
5th Floor, Kendriya Bhawan,
Sector – H, Aliganj,
Lucknow (UP) – 226 024

Registered

Sub: Six monthly compliance status report for stage VI (Oct22 – March.23)

Ref: (i) Your Letter No.J-13012/23/98-IA.II (T) dated 28.11.2001

(ii) Your letter No.J-13012/23/98-IA.II (T) dated 10.03.2014 reg. amendment in EC for change of source of coal.

- 1. NAME OF THE PROJECT : HINDALCO INDUSTRIES LIMITED
(Renusagar Power Division)**
- 2 .(I) CLEARANCE LETTER NO. : J-13012/23/98IA.II (T) Dt.28.11.2001 (Stage-VI)
(II)CLEARANCE LETTER NO. : J-13012/23/98IA.II (T) Dt.10.03.2014 (Stage-VI Amended)**
- 3. PROJECT CODE : UP-18-99-1997**
- 4. TIME PERIOD : October TO March 2023**

Dear Sir,

As desired, please find below the status of our EC conditions stated for expansion Stage VI:-

EC No. J-13012/23/98IA.II (T) Dt.28.11.2001 (Stage-VI):

Specific Conditions:

S.N.	Conditions	Compliance Status
3(i)	All the conditions stipulated by Uttar Pradesh Pollution Control Board letter No.G-19804/C-2/NOC/3227/2001 dated 22 nd March, 2001 should be strictly implemented.	We have implemented all the conditions of NOC stipulated by UPPCB. With regards to point no.2,3,4,5,6,7,8,9,10,11,13,14,15,16,17,19&20 complied via letter dated 20.07.2006. <u>PonitNo.12-</u> Policy under Public Liability Insurance PolicyAct-1991 has been granted for May2022 to April.2023. Copy is attached in annexure-1 <u>PonitNo.18-</u> Authorisation issued under the provisions of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016. The authorization is valid up to period of 08/07/2026. Copy is attached in annexure-2.

Hindalco Industries Limited

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3(ii)	The expansion units (2x80 MW) should be installed in the space available in the premises of existing power station and the land acquisition for ash disposal should also be restricted to 151.25 acres at new ash disposal area.	2x80MW units have been installed in the space available in the existing plant. Ash disposal area at Bichhari is within 151.25 acres.
3(iii)	As per MoEF Condition No.3(iii)the stack height of 130 m with continuous monitoring system and it should be ensured that exist velocity is maintained at 20.3m/s and the temperature at130°C as these have been used as input parameter for estimation of GLC values.	Chimney of 130 meter height with continuous monitoring (Opacity meter) provided.
3(iv)	Electrostatic Precipitator having efficiency not less than 99.8% should be installed and it should be ensured that particulate matter emission would not exceed the prescribed limit of 100mg/Nm ³ .	Electrostatic precipitator having efficiency of 99.9% has been installed to ensure the particulate emission within prescribed limit.
3(v)	Only make up water for the project should be drawn from Rihand Reservoir as per the permission given by UP Irrigation Department. Closed circuit cooling Towers should be provided for conservation of water. As committed zero discharge of effluent should be adhered to and at no stage discharge of treated water would be permitted either into reservoir or for irrigation out side the plant premises.	Make up water for the project is being drawn from Rihand Reservoir as per the permission given by U.P. Irrigation department(currently U.P. Jal Vidyut Nigam, Limited) Cooling Towers has been provided with closed circuit cooling with induced draft cooling system. All the plant & domestic effluents are collected and get treated in ETP, AWRS and STP. All the effluents are treated and reused in ash disposal and cooling Tower system to ensure zero discharge.

3(vi)	All effluents generated in various plant activities should be collected in the Central effluent treatment plant/Central Monitoring Basin and treated to ensure adherence to specified standard of usage.	<p>All the industrial effluents are collected and get treated in Effluent Treatment Plant which is maintained well to the utmost operational effectiveness and efficiency. We have evolved recycling system and reuse of entire domestic and industrial treated effluents; hence there is zero discharge to Rihand lake. Approved Third party report of treated effluents for dated 13.02.2023 is given in Table. Report is attached in annexure-3</p> <table border="1" data-bbox="678 504 1396 772"> <thead> <tr> <th>S.N.</th> <th>Parameter</th> <th>Unit</th> <th>ETP outlet</th> <th>STP outlet</th> <th>AWTP outlet</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>pH</td> <td></td> <td>7.41</td> <td>7.42</td> <td>7.51</td> </tr> <tr> <td>2</td> <td>BOD</td> <td>mg/l</td> <td>22.0</td> <td>24.0</td> <td>20.0</td> </tr> <tr> <td>3</td> <td>COD</td> <td>mg/l</td> <td>140.0</td> <td>80.0</td> <td>110.0</td> </tr> <tr> <td>4</td> <td>Oil/grease</td> <td>mg/l</td> <td>4.0</td> <td>2.4</td> <td><2.0</td> </tr> <tr> <td>5</td> <td>Fluoride</td> <td>mg/l</td> <td>0.87</td> <td>0.86</td> <td>0.95</td> </tr> </tbody> </table>	S.N.	Parameter	Unit	ETP outlet	STP outlet	AWTP outlet	1	pH		7.41	7.42	7.51	2	BOD	mg/l	22.0	24.0	20.0	3	COD	mg/l	140.0	80.0	110.0	4	Oil/grease	mg/l	4.0	2.4	<2.0	5	Fluoride	mg/l	0.87	0.86	0.95
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3(vii)	Coal for the project, as far as possible, from Jhingurda Coal Mines of Northern Coalfield Limited should be used@1310 TPD for the expansion units. Fuel should be transported only through existing two aerial ropeways from Mine head to the projects site. In case of change of coal mines, detail of fuel analysis and mode of transportation should be submitted in the Ministry for approval.	We have applied for the change of Linkage coal from Jhingurda Coal mines to Krishnashila Coal mines of NCL, vide our letter No.Env/293 dated 28.02.2013.The Ministry has accorded the Change of source of coal vide letter No.J-13012/23/98-IA.II(T) dated 10.03.2014.																																				
3(ix)	All recommendation made by the State Department of Environment, Government of U.P. vide their letter dated 21 st July,2001 along with the condition stipulated in the report of the Committee constituted by the State Government to examine the expansion proposal should be strictly adhered to.	All the recommendations made by State Department of Environment, Govt. of U.P. and conditions stipulated in the report of the committee constituted by State Govt. had been followed.																																				

3(xii)	<p>With 39% average ash content ash generation for the expansion project should not exceed 3.2 lacs tones per annum. As per MoEF Notification of September 1999,100% ash utilization should be ensured within 9 years of commissioning of the plant. The use of ash disposal area accordingly should restricted to 151.25 acres. A green belt of 100 meter on Eastern side and 50 meter on Southern should be developed covering an area of 36 acres. Ash storage area should not be limited only to 70 acres. For avoiding contamination of ground water ,ash disposal area should be covered with LDPE lining.</p>	<p>Action plan for 100% utilization of ash has been prepared and submitted to Ministry. Fly ash utilization is being done as per action plan.</p> <p>The Ash Disposal area at Bichhari is within 151.25 acres.</p> <p>A green belt covering an area of 36.00 acres (i.e.14.50 hectare) around new ash dyke at Bichhari has been developed.</p> <p>For avoiding ground water contamination, ash disposal area at Bichhari has been completely covered with LDPE lining.</p>
3(xiv)	<p>A detailed scheme of Afforestation programme covering an area of 49.5 hectare including 14.50 hectare, around new ash dyke should be submitted to the Ministry clearly indicating width of greenbelt along the plant boundary, ash disposal area, internal roads etc. A norm of 1500-2000 trees per hectare should be followed for Afforestation programme. Financial allocation of Rs.38.16 lacs should be included in the budget of the project for this purposes. Detailed proposal in this regard should be submitted to the Ministry within 3 months. For ensuring good quality of plants of specified species, a nursery should be created in consultation with State Forest Department and National Botanical Research Institute, Lucknow.</p>	<p>Under the Green Belt Development Programme covering an area of 49.5 hectare of land, a total of 1,21,203 sapling of various varieties commensurate to local biodiversity of area were planted in and around plant, colony and ash dyke area against the target of 85,900.</p>

3(xv)	Hindalco Industries Limited should establish special Environment Cell at site for this project for consultation on day to day basis during project planning and implementation of the project. As submitted dated 5th November, 2001, experts should be consulted for special issues.	We have constituted Environmental Cell for monitoring of various environmental issues. Further a panel of expert has been constituted for seeking guidance, opinion & continual improvement of various environmental matters. The panel includes Regional Officer-UPPCB, Robertsganj, Head, Environmental Division, CII, New Delhi, Prof. B.D. Tripathi, Director-Centre for Environment & Technology, Botany Dept., BHU, Varanasi, and Dr. S.K. Bhargava, Chairman UP State Level Expert Appraisal Committee and Ex-Head & Dy. Director, Environmental Monitoring Division, IITR(Indian Institute of Toxicological Research) ,Lucknow.
3(xvii)	The project proponent should advertise at least two local newspapers widely circulated in the region around the project, one of which will be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at website of the Ministry of Environment & Forest at http://www.envfor.nic.in The advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office.	We advertised the information in two local newspapers 'Hindustan Times'(English) and 'DainikJagran'(Hindi) widely circulated in the region around the project on 5/12/2001 out of which one is in the vernacular language of the locality. The copy of the same has already been submitted to Regional Office of the Ministry.
3(xviii)	A monitoring committee should be constituted for reviewing the compliance of various safeguard measures by involving recognized local NGOs, Pollution Control Board, Institutions, Experts etc.	The committee includes Regional Officer, UPPCB, Robertsganj, Head Environmental Division, CII, New Delhi, Prof. B.D. Tripathi, Dept of Botany, BHU, Varanasi, Dr. S.K. Bhargava, Ex head, EMD, IITR, Lucknow, and Sri SubhashYadav for seeking guidance & opinion for improvement of environment.Civil Engineering department, IIT BHU has been awarded contract for Ash Dyke stability & related works on regular basis.
3(xix)	The project authorities should inform the Regional Office as well as Ministry the date of financial closure & final approval	The report was sent to concerned authorities.

of the project by the concerned authorities and the date of start of land development work.	
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General Conditions:

S.N.	Conditions	Compliance Status
3(viii)	For maintaining the pollution load at existing levels and for its improvement and also to ensure that the expansion project involving installation of the two units of 80MW capacity each does not deteriorate existing environmental status. It should be ensured that revamping and up gradation programme for control SPM, SO ₂ , and NO _x is under taken and synchronize with commercial operation of the expansion units.	We ensure that the pollution load does not exceed the existing level after installation of two units. To maintain the existing pollution load (SPM, SO ₂ , NO _x), we have upgraded and revamp the units and thus controlling the concentration of pollution load and we ensure that expansion unit does not deteriorate the environment.
3(x)	Noise level should be limited to 75 dBA& regular maintenance of equipments should be undertaken. For people working in the area of generator halls and other high noise area, ear plug should be provided.	People working in the noise area have been provided with ear plugs and earmuff protection devices. Their use is ascertained by site supervisors.
3(xi)	For controlling fugitive dust, regular sprinkling of water in coal handling and vulnerable areas of the plant should be ensured. In addition, use of Chem -jet for controlling fugitive dust at coal handling site should also be continued as reflected in the environmental management programme submitted to the Ministry.	For controlling fugitive dust regular sprinkling of water is being done in coal handling and various areas of the plant. Dust suppression system, dust extraction device, water sprinklers at all stacker mouth, rain gun around periphery of coal yard & road side water sprinklers in CHP yard have been installed and are operational to control dust pollution and keep the dust level within the prescribed limit.
3(xiii)	Detailed Socio-economic survey should be undertaken for the additional area proposed to be acquired for ash disposal. The resettlement plan should be got approved from District Collector and submitted to the Ministry within six months. As submitted	Ash disposal yard made on forest land & no land required from public and hence no displacement of people occurred.

	in the EIA report, there should be no displacement of people due to the acquisition of land.																						
3(xvi)	Regular Monitoring for SPM, SO ₂ , and Nox around the power plant may be carried out & record maintained. Monitoring stations should be established in consultation with the State Pollution Control Board.	<p>We have installed 04 No. Ambient Air Quality Monitoring Stations in four directions in consultation and approval from UPPCB. Regular monitoring for RSPM(PM₁₀,PM_{2.5}),SO₂ & NOX is being carried out, records are maintained and the reports are being sent regularly. Approved Third party report for dated 07-11.02.2023 is given in table. The report in Annexure-4. 03 No. CAAQMS had been installed at Renusagar. 02 No. new CAAQMS has also been installed as per suggestion of Joint committee (NGT). Online data of 02 No. CAAQMS are connected to CPCB server and 01 No is in progress.</p> <table border="1"> <thead> <tr> <th>Source</th> <th>Para meter</th> <th>Unit</th> <th>Average Value.</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Ambient Air Quality.</td> <td>PM_{2.5}</td> <td>µg/m³</td> <td>29.50</td> </tr> <tr> <td>PM₁₀</td> <td>µg/m³</td> <td>55.10</td> </tr> <tr> <td>SO₂</td> <td>µg/m³</td> <td>26.30</td> </tr> <tr> <td>NO₂</td> <td>µg/m³</td> <td>22.90</td> </tr> <tr> <td>Stack Emission.</td> <td>PM</td> <td>mg/Nm³</td> <td>87.09</td> </tr> </tbody> </table>	Source	Para meter	Unit	Average Value.	Ambient Air Quality.	PM _{2.5}	µg/m ³	29.50	PM ₁₀	µg/m ³	55.10	SO ₂	µg/m ³	26.30	NO ₂	µg/m ³	22.90	Stack Emission.	PM	mg/Nm ³	87.09
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3(xx)	Full cooperation should be extended to the Scientist/Officers from Regional office of the ministry located at Lucknow and central and state Pollution Control Boards who would monitoring the Compliance of Environmental Status. Complete set of impact assessment report and the Management Plans should be forwarded to the regional office for their use during monitoring.	We are extending our full cooperation to the Scientist/Officers from Regional office of the Ministry located at Lucknow and Central and State Pollution Control Boards during their visit & monitoring for compliance.																					

EC No. J-13012/23/98IA.II (T) Dt.10.03.2014 (Stage-VI Amended):

3(xxi)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.	Solar Power of 2.3 MWp DC has been installed at Old ash Dyke area.
3(xxii)	A long term study on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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.	Radioactivity and heavy metal test report of coal tested from M/s Sri Ram Institute of Industrial Research, Delhi is being enclosed in Annexure-5
3(xxiii)	Mercury emission from stack shall also be monitored on periodic basis.	Complied. (Analysis is being done by M/s Prakriti Consultants Services, Lucknow.)
3(xxiv)	Fugitive emission shall be controlled to prevent impact on agricultural or non-agricultural land.	Complied. (Analysis is being done by M/s Prakriti Consultants Service ,Lucknow.)
3(xxv)	No ground water shall be extracted for use in operation of the power plant even in lean season.	Complied.
3(xxvi)	Hydro geological study of the area shall be reviewed annually and report submitted to the Ministry. 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.	We have conducted the study from M/s Motilal Nehru National Institute of Technology, Allahabad and report has been sent vide our letter No. HR/Six-EC-VI/050 dated 20/05/2016. PR being raised for the vendor for the study. We shall submit the report when study is completed.
3(xxvii)	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.	Renusagar is Zero Liquid discharge unit. All effluents are recycled and reused.

3(xxviii)	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of the 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 coordination with the State Pollution Control Board.	Fly Ash is not used for agricultural purpose. Mine Void filling may be done owing the compliance of MoEFCC letter F.No.-22-13/2019-IA.III dated 28.08.2019 regarding – changes in the conditions stipulated in the EC of thermal power plants and coal mines in line with the fly ash notification and subsequent amendments-reg. We have requested for Feasibility Study for fly ash utilization in abandoned coal mines from Central Institute of Mining and Fuel Research (CIMFR),DGMS, Dhanbad and CMD Northern Coalfields Limited. vide our letter No. UH/RPD /256 dated 24/11/2015.
3(xxix)	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals(Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Complied.
3(xxx)	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 between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be	Complied. Surface water quality report (Rihand lake) is being monitored by M/s Prakriti Consultants services, Lucknow. Report is attached in Annexure-5 for your kind perusal.

	undertaken.	
3(xxxi)	Green belt consisting of 3 tier of plantation of native species around plant and at least 100m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 75%.	Plantation of tree continues as a regular activity at Renusagar Power Division. 34.15% of total area has been developed as Green Belt. Plantation report for period of October to March 2023 is attached in Annexure-7.
3(xxxii)	Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.	Regular Plantation is being done around ash pond and plant areas.
3(xxxiii)	A common Green Endowment Fund shall be created and the interest earned out of it shall be used for the development and management of the green cover of the area.	Green Belt development expenditure for FY: 2022-23 is Rs 2.25 Lac
3(xxxiv)	A minimum amount of 0.4% of the project cost as one time capital cost shall be earmarked for activities to be taken up under CSR during construction phase of the project. Recurring expenditure for CSR thereafter shall be 1/5 th of capital cost per annum or as per CSR guidelines of Government of India, whichever is more till the life of the plant. Social audit for the CSR Schemes shall be carried out periodically by reputed university or an institute as per the CSR guidelines of Govt. of India and details to be submitted to MoEF besides putting it on company's website.	Recurring CSR expenditure is Rs 54.63 Lac for FY: 2022-23 enclosed in Annexure-8. Social Audit of CSR schemes has been conducted for model villages by Xavier Institute of Social Service (XISS), Ranchi in September, 2016. XISS Final report & action Plan has been submitted vide our letter No. Env/Six-VII/099 dated 28.11.2017. Action plan has been implemented.
3(xxxv)	CSR scheme should address Public Hearing issues and shall be undertaken based on need based assessment in and around the villages within 5.0 km	CSR schemes have been developed to address public hearing issues. Various CSR activities are being done voluntarily. Some activities of CSR are also being done regularly as per directions of administration.

	<p>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 orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme for possible self employment and jobs shall be imparted to identify villagers free of cost.</p>	
3(xxxvi)	<p>An Environmental Cell shall be created at the project site itself and shall be headed by an Officer of the company of appropriate seniority and qualification. It shall be ensured that head of the Cell shall directly report to the head of the Organization.</p>	<p>A well established Environmental cell is already in place to monitor the Environmental safeguard. Head of the environment cell reports to unit head.</p>
3(xxxvii)	<p>The Environmental Statement for each financial year ending 31st 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 Office of the Ministry by e-mail.</p>	<p>Complied. Environmental statement is being sent regularly by e-mail to the regional office of the ministry.</p>

3(xxxviii)	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.	Complied.
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We hope, you will kindly find the same in order.

Thanking you and assuring you of our best co-operation at all times.

Yours faithfully,
For HINDALCO INDUSTRIES LIMITED
(Renusagar Power Division)



(Kamlesh Maurya)
Head (Environment)