

F. No. J-11011/681/2008-IA.II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

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Dated: 14th August, 2018

To

The Executive Director
M/s National Mineral Development Corporation
Village Nagarnar Tehsil Jagdalpur,
District Bastar Chhattisgarh - 494001.

Subject: Proposed Integrated Steel Plant (3.0 MTPA) located at Village Nagarnar Tehsil Jagdalpur, District Bastar, Chhattisgarh by M/s National Mineral Development Corporation – Amendment in Environmental Clearance for minor changes in plant configuration and product mix. – Amendment in Environmental Clearance regarding.

Sir,

This has reference to your online application vide proposal no. IA/CG/IND/6115/2009 dated 18th May 2018 seeking amendment in Environmental Clearance for minor changes in plant configuration and product mix granted for the Integrated Steel Plant (3.0 MTPA) at Village Nagarnar Tehsil Jagdalpur, District Bastar Chhattisgarh vide MoEFCC File No. J-11011/681/2008-IA.II(I) dated 15/09/2009 and subsequent extension of validity of Environmental Clearance vide letter dated 05/12/2014.

2.0 M/s NMDC proposed for setting up a 3.0 MTPA Integrated Steel Plant in village Nagarnar, Tehsil Jagdalpur, District Bastar, Chhattisgarh as value addition to its iron ore mining activities. Prior Environmental Clearance was granted vide letter F. No. J-11011/681/2008-IA.II(I) dated 15/09/2009 and subsequent extension of validity of Environmental Clearance vide letter dated 05/12/2014. After getting Consent to Establish from Chhattisgarh Environment Conservation Board, Raipur vide letter no 3047/TS/CECB/2010 dated 28/08/2010, construction work on site was started and construction activities for commissioning of ISP are presently under progress.

3.0 Construction of the Integrated Steel Plant of NMDC at Nagarnar is in full swing. Progress of construction of plant units are at different stages and percentage progress of various units of the steel plant are tabulated below:

S. no	Unit	% Progress
1	Raw Material Handling System	78
2	Coke Oven Battery & CDCP	91
3	By-Product Plant	71
4	Sinter Plant	95
5	Blast Furnace	92
6	Steel Melting Shop	78
7	Hot Strip Mill	75

8	Lime & Dolo Plant	40
9	Oxygen Plant	99
10	Power and Blowing Station	79

4.0 The proposed Integrated Steel Plant was envisaged during 2008. During the period, a detailed Techno-economic feasibility study was conducted based on the available technologies at that time. However, at the time of project realization in 2010 and onwards, it was observed that the latest state of the art & environment friendly technology being offered by various parties are of slight different configuration of their standard modular design. Accordingly, some of the units of Integrated Steel plant proposed to be modified. The proposed change in the configurations is as follows:

Sl. No	Unit	As per EC	Revised	Remarks
1	Coke Oven	2X67 Ovens	2X67 Ovens	No Change
2	Sinter Plant	1X460 m ²	1X463.5 m ²	As per technology supplier's design
3	Blast Furnace	4500 m ³	4506 m ³	As per technology supplier's design
4	Pig Caster	5100 TPD	5100 TPD	No Change
5	Steel Melting Shop	2X175 T BOF	2X175 T BOF	No Change
6	Thin Slab Caster coupled with HSM	2x1 strand	2x1 strand	No Change
7	Hot strip mill with finishing train	2.896 MTPA	2.896 MTPA	No Change
8	Oxygen Plant	2X1000 TPD	2X1250 TPD	For oxy-fuel consumption to enhance energy effectiveness
9	Lime Plant Dolo Plant	2X500 TPD 300 TPD	2X500 TPD 300 TPD	No Change
10	Power Blowing Station (gas based)	3X30 MW Turbines 2X250 TPH Boilers	2X40 MW Turbines 3X160 TPH Boilers	Technical Requirement

5.0 In addition to above, NMDC is also proposing for minor changes in Product Mix. The primary product of the integrated steel plant shall be Hot Rolled Coils from HSM as proposed during previous EC. However, due to changing market demand and considering future scenario, NMDC is now proposing to change the specifications (Changes in Length/ Width/ Size as per BIS) in the HR Coils.

6.0 The final product from the Integrated Steel plant shall remain 2.896 MTPA of Hot Rolled Strips and 2,72,800 TPA of Pig Iron. A slight change in recovery of by-products from Coke Oven Gas is also proposed. The revised product mix is given below:-

Sl. No.	Item	Annual Production (T)		Remarks
		As per EC	Present Proposal	
A.	Crude Steel	3,000,000	3,000,000	No Change
B.	Pig Iron	272,800	272,800	No Change

C.	Finished HR Coils	2,896,000	2,896,000	No Change (Minor Changes in Specifications as per BIS)
		<ul style="list-style-type: none"> • HR Plates – (IS 2062, IS 5986, IS 8500, IS 3039) -400,000 TPA • HR Plates – (IS 2002 & IS 2041) - 400,000 TPA • API-5L quality plates upto x80 - 500,000 TPA • LPG cylinders (IS 6240)- 200,000 • HR coils (IS 10748, IS 1079) - 946,000 TPA • High Carbon Steel (1100-1650) and other alloy steel- 50,000 TPA • Automotive Steel- 1250-1524 - 50,000 TPA • Automotive Steel- 1525-1650 - 50,000 TPA • Silicon Steel (DIN 46400-3) - 100,000 TPA • HR Sheets (IS 3196) - 200,000 TPA 	<ul style="list-style-type: none"> • HR coils/sheet/plates up to 550 MPa yield strength (IS 2062, IS 5986, IS 3039, IS 3196, IS 8500) - 500,000 TPA • Boiler low/moderate temperature pressure vessels/quality plates (IS:2002:1992, reaffirmed 2007, ASTM-A285 & IS:2041:1995, reaffirmed 2000) - 300,000 TPA • API-5L quality pipes up to X-80 -500,000 TPA • LPG Cylinder (IS: 6240:1999 reaffirmed 2004, G3116) - 300,000 TPA • Commercial (IS:10748:2004, BS-1449, ASTM-A569) - 150,000 TPA • Draw Quality (D) DD & EDD Quality (IS:1079:1994, reaffirmed 1998) - 920,000 TPA • HR Coils- Auto Grades E34/E38/BSK 46/Fe 410, E55, Dual Phase, IF, TRIP, Silicon Steel (IS:3024:2006, DIN 46400-part1, part2, part3) - 230,000 TPA 	
D. By-products				
1	Ammonium Sulphate	24090	0	Not Considered
2	Crude Tar	70080	91454	Minor increase
3	Naphthalene	2452	2492	Minor increase
4	Sulphur	260	389	Minor increase

7.0 The pollution loads estimated for 3 MTPA integrated steel plant at Environmental Clearance stage are compared with the pollution load after the proposed amendment. A

slight decrease in overall pollution load on ambient air is anticipated because of considering latest technologies and pollution control equipment actually considered during execution of project to comply with the revised norms. Predicted GLC values before and after the present proposal (GLC values in $\mu\text{g}/\text{m}^3$ (24 hrs. avgs) is as follows:

Sl. No.	Scenario	PM	SO ₂	NO _x
1	Max GLC as per EC	14.3	4.5	6.5
2	Max GLC after present proposal	10.7	4.1	5.9
3	Difference	-3.6	-0.4	-0.6

8.0 No additional impact on surface water resources is envisaged as no additional water is required to be drawn by the proposed plant. No impact on ground water resources is envisaged from drawl of water since no ground water will be drawn for the proposed plant. An Effluent Treatment Plant (ETP) has been proposed for Coke Oven By-products Plant based on Membrane Bio Reactor technology followed by RO has been proposed here. The RO reject shall be sent to lined solar evaporation pond or utilized in BF Slag granulation Plant / Pig Casting Machine. All other units of the steel plants are provided with separate pre-treatment systems comprising of settling ponds, UF and RO systems. A centralized zero liquid discharge facility has been proposed for the ISP. RO reject water from various units of the steel plant shall be collected & treated in centralized ZLD plant. No effluents shall be discharged outside the plant boundary. Therefore, no impacts on surface or ground water quality are expected.

9.0 No additional land is acquired for the present amendment. All ferrous & non ferrous wastes generated during plant operations shall be utilized within the plant in Sinter Plant/BOF. BF/BOF Slag shall be sold to cement manufacturers or used for road construction. All hazardous waste shall be disposed in secured landfill/ handed over to authorized Landfill operators for disposal as per statutory norms. No additional impacts on land are anticipated as compared with the EC stage.

10.0 The total project cost is estimated around Rs 15525 Crores. Out of which, the cost of Environment Protection and Enhancement measures is around Rs 1016 Crores. The budget allocation for the EMP remains same.

4 11.0 The proposal was considered in the 32nd meeting of Expert Appraisal Committee held during 11-13th June, 2018 and recommendations were confirmed in the 33rd meeting of Expert Appraisal Committee held during 11-13th July, 2018. The committee observed that the instant proposal is for modification in the configuration of Sinter plant, Blast Furnace, oxygen plant and power blowing station without increase in the overall capacity of the project. The project proponent committed to plant about one lakh plants in the surrounding area as there is no additional space available within the plant premises for carrying additional plantation.

12.0 After detailed deliberation, the committee recommended for amendment in the environmental clearance subject to following conditions:

1. Specific water consumption shall be less than 4.5 M3 per ton of long product within the one year from the commission.
2. The PP shall plant one lakh plants in the vicinity of the plant.
3. The emissions from bag houses shall be limited 30 mg /Nm³.

13.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I)

and hereby decided to grant amendment in environmental clearance as per the para (6) under the provisions of EIA Notification, 2006 as amended from time to time subject to the conditions specified at para (12) in addition to the terms and conditions stipulated in No. J-11011/681/2008-IA.II(I) dated 15/09/2009 and dated 05/12/2014.

14.0 The company shall obtain fresh Environmental Clearance in case of any change in the scope of the project.

This issues with the approval of Competent Authority


(Sharath Kumar Pallerla)
Scientist 'F' / Director

Copy to:-

1. **The Secretary**, Department of Environment, Government of Chhattisgarh.
2. **The Additional Principal Chief Conservator of Forests(C)**, Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur - 440001.
3. **The Chairman**, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh
4. **The Member Secretary**, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
5. **The District Collector**, Bastar **District**, State of Chhattisgarh.
6. **Guard File / Record file / Monitoring file.**
7. **MOEF&CC Website.**


(Sharath Kumar Pallerla)
Scientist 'F'/Director