

F. No. J-11011/267/2007-IA. II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

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Dated: 26th December, 2019

To ✓
Shri. Saket Agrawal,
Managing Director,
M/s. MSP Steel & Power Limited,
1, Crooked lane,
Kolkata - 700069.
Email: pk.dey@mspsteel.com

Subject: Expansion of Sponge Iron Plant production from 3,00,000 TPA to 3,75,000 TPA through process optimization by M/s. MSP Steel & Power Limited located at Jamgaon village, Raigarh district, Chhattisgarh - Environment Clearance under para 7(ii) of EIA Notification, 2006 - regarding.

Sir,

1. This refers to the application of M/s. MSP Steel & Power Limited made vide proposal no. IA/CG/IND/90078/2018 dated 25/05/2019 along with Form - 2 seeking environmental clearance under the provisions of para 7(ii) of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category "A" EIA Notification, 2006 and the project is appraised at the Central level.
2. The aforesaid proposal was considered in the 8th meeting of the Reconstituted Expert Appraisal Committee meeting held during 26th June, 2019 and further re-considered in the 12th meeting of the Reconstituted Expert Appraisal Committee meeting held during 21-23rd October, 2019. The EAC proceedings of the proposal is given as below:

Details submitted by the project proponent

3. M/s. MSP Steel & Power Limited was granted environmental Clearance by MoEF&CC vide letter No. J-11011/267/2007-IA II (I) dated 02/04/2009 for capacity expansion of Billet production from 95,000 to 6,95,090 TPA and Captive Power Plant from 16 MW to 52 MW. Subsequently, amendment to the environmental Clearance was issued on 9/9/2010 for change in the capacity of Pellet plant from 0.6 MTPA to 0.9 MTPA and Captive Power Plant from 20 MW to 44 MW (AFBC Boiler). Thereafter, another amendment to the environmental Clearance was issued on 23/08/2012 for change in configuration of Steel Melting Shop within permitted production capacity of 672,172 TPA Billets and inclusion of 4.5 MW biomass based power plant.

Expansion of Sponge Iron Plant production from 3,00,000 TPA to 3,75,000 TPA through process optimization by M/s. MSP Steel & Power Limited located at Jamgaon village, Raigarh district, Chhattisgarh - Environment Clearance under para 7(ii) of EIA Notification, 2006.

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4. It has been reported that following is the implementation status of the existing Environmental Clearance:

Facilities	As per Environmental Clearance		Installed		
	Units	Annual Production Capacity in Tons	Units	Annual Production Capacity in Tons	
Sponge Iron Plant	4x300 TPD	400,000	3x300 TPD	300,000	
Steel Melting Shop	3x15 Ton IF	139,680	3x15 Ton IF	139,680	
	5x8 Ton IF	119,832	5x8 Ton IF	119,832	
	1x18 Ton IF	46,000	1x18 Ton IF	46,000	
	2x35 Ton EAF	366,660	IF		
		672,172		305,512	
Sinter Plant	1x60 m ²	641,520	Not Installed		
Blast Furnace	1x450 m ³	400,000	Not Installed		
Iron Ore Beneficiation & Pellet	---	900,000	---	900,000	
Coal Washery	---	720,000	---	360,000	
Rolling Mill	---	480,000	---	273,000	
Power Plant	WHRB	4x8 MW	3x8 MW	24 MW	
	AFBC	1x10 MW	44 MW	1x10 MW	44 MW
		1x34 MW		1x34 MW	
	Bio-mass	1x4.5 MW	4.5 MW	1x4.5 MW	4.5 MW
		80.5 MW		72.5 MW	

5. The present proposal of M/s. MSP Steel & Power Limited is for enhancement of production of Sponge Iron from 3 nos. of installed DRI Kiln from 300,000 (production under the CTO) to 375,000 TPA (25% increase is proposed) by use of imported coal without any increase in pollution load or any additional installation.
6. The unit configuration and the production capacity of various units after the enhancement in sponge iron production is given as below:

Facilities		Configuration	Annual Production Capacity in Tons
Sponge Iron Plant		3x300 TPD	375,000
Steel Melting Shop		3x15 Ton IF	139,680
		5x8 Ton IF	119,832
		1x18 Ton IF	46,000
			305,512
Iron Ore Beneficiation & Pellet		---	900,000
Coal Washery		---	360,000
Rolling Mill		---	273,000
Power Plant	WHRB	3x8 MW	24 MW
	AFBC	1x10 MW	44 MW
		1x34 MW	
	Bio-mass	1x4.5 MW	4.5 MW
			72.5 MW

Expansion of Sponge Iron Plant production from 3,00,000 TPA to 3,75,000 TPA through process optimization by M/s. MSP Steel & Power Limited located at Jamgaon village, Raigarh district, Chhattisgarh - Environment Clearance under para 7(u) of EIA Notification, 2006.

7. The certified compliance report for the existing EC conditions was issued by the Regional Office of the MoEF&CC at Nagpur on 31/07/2018 wherein following non-compliances have been reported:

- i. Specific condition no (vi) - it was observed that PP has adopted measures like water spray system at ground hopper of raw material feeding, bag-filter connected to the CHP of Power plant, bag-filter connected to stacks of Induction Furnace. However, measure for control of secondary fugitive emission needs to be further upgraded or strengthened by the PP, Housekeeping practices needs to be improved to keep the open areas of the premises tidy and to keep the secondary emissions under control Similarly water sprinkling system at the transfer points along the roads need to be further strengthened as premises of the PP has been observed with substantial secondary fugitive emissions.
- ii. Specific conditions no.(viii) and conditions no.(iii) of EC dated 09.09.2010 as per the details made available by the PP, it was observed that existing water consumption of the PP stands a 7278 m³/day while with the proposed expansion the water consumption in future will increase to total requirement of the water has been proposed to be 8289 m³/day. Details pertaining to the approval obtain by the PP for the consumption of additional water of 576.8 m³/day was not made available by the PP.
- iii. Condition no. (xv) Detail regarding monitoring reports on toxic metal content in the waste material and its composition, if any assessed by the PP, has not been made available by the PP.
- iv. General Conditions no. (v) and Condition No. (vi) of EC dated 09.09.2010- No ETP has been installed by the PP to treat wastewater.

Subsequently, the closure report was issued by MoEF&CC, Regional Office (WCZ), Nagpur vide P.No. 5-189/2009(ENV)/5540 on 23/07/2019 wherein it was confirmed that all partially complied conditions are now being complied by M/s MSP Steel & Power Limited.

8. The changes in raw material requirement for the proposed product enhancement is given below:

Sl. No	Item	Per MT of Product	Requirement (TPA)	
			For Existing 300,000 TPA Production with 100% Indian Coal	For proposed 375,000 TPA production with 90% Imported Coal and 10% Indian Coal
1	Iron Ore (10%)	1.68	50,400	63,000
2	Pellet (90%)	1.4	378,000	472,500
3	Indian Coal	1.4	420,000 (100%)	52,500 (10%)
4	Imported Coal (90%)	0.76	--	256,500 (90%)
5	Limestone	0.03	9,000	11,250
TOTAL			857,400	855,750

Due to use of low ash content (20%) Imported coal the total raw materials quantity requirement has been reduced. As a result, more space in kiln is left to facilitate processing of more iron ore / pellets resulting in greater productivity in the same Rotary kilns.

9. The energy balance due to the proposed product enhancement is given below:

Energy balance due to change in dolo-char production			
Sl. No	Parameters	Indian Coal (100%) 38% Ash & FC 36%	Imported Coal (90%) 20% Ash & FC 55%
		Present Production @ 300 TPD X 3 Kilns (335 days) = 3,00,000 TPA	Proposed Production @ 375 TPD X 3 Kilns (335 days) = 3,75,000 TPA
1.	Dolo-char generation per day in MT	385	246
2.	Dolo-char generation per hour in Kg	16,040	246,000
3.	CV Gcal (Kcal / kg)	1200	2100
4.	Total GCV (Kcal)	19,250,000	21,525,000
Energy due to change in flue gas generation			
1.	Volume of Air fed to the Kiln per tons of Raw Material in Nm ³ /hr./ton of raw material (Iron Ore & Pallets)	2500	2000
2.	Qty. of Iron Ore & Pallets per year in Tons (TPA)	428,400	535,500
3.	Raw materials required per hour (Tons/hr.)	53.3	66.6
4.	Gross volume of Air to WHRB in Nm ³ /hr.	133,250	133,200

Due to use of high quality coal, dolo-char generation is reduced however total GCV is more due to high Fixed Carbon (FC) in the imported Coal. Hence, under the proposed change less coal will be required to generate the same power (44 MW) power generation from AFBC Boiler. The volume of air fed to the DRI Kiln per hour is almost same and exit temperature of the flue gas is also same in both the cases, hence there will be no change in the heat value of flue gas entering to the WHRB.

10. The water requirement of the entire plant after the proposed capacity enhancement of Sponge Iron Plant will be limited to 5550 m³/day. Total water requirement will be less than 6701.2 m³/day permitted under the existing EC. The water requirement break up is given as below.

Units	Final Installed Capacity	Existing m ³ /day	For Expansion m ³ /day	Total Make-up water m ³ /day
Pellet Plant	900000 TPA	683	-	683
DRI Plant	300000 TPA	228	56 (for additional 75,000 TPA production)	284
SMS with CCM	305512 TPA	185	-	185
Rolling Mill	273000 TPA	103	-	103
C.P.P. (72.5 MW) WHRB AFBC	24 MW 44 MW	4002	-	4002

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Units	Final Installed Capacity	Existing m ³ /day	For Expansion m ³ /day	Total Make-up water m ³ /day
Bio-mass				
Coal Washing	45 MW			
For Domestic use	300000 TPA	283	-	283
TOTAL		10	-	10
		5494	56	5550

11. The pollution load quantification due to the enhancement in sponge iron production is given as below:

The company proposes to use high grade coal of low ash content (20%) instead of high ash content (42%) indigenous Coal of 'E&F' grades (present practice). This will significantly reduce the ESP dust load by around 38%. The gross inlet dust load to the ESP will be reduced due to decrease in raw materials requirement and low ash content in Coal. As a result, particulate emission will remain within the level as permitted in the existing EC dated 02.04.2009.

Dust Load in ESP	Dust load for the present production under Consent to Operate (CTO) (300,000 TPA) in Tons	Dust load for the increased production (375,000) in Tons
Iron Ore dust	22428	28035
Fly-ash	72324	30073
Total load in Tons	94752	58108
Dust Load in ESP in kg/sec.	3.27	2.01
Reduction in Dust Load in ESP – 1.26 kg/sec		

Reduction in Solid Waste generation

Reduction of solid waste generation in the form of Char, Sludge & Dust as shown in the table below is primarily due to low ash content and coal with high Fixed Carbon, to be procured from the import sources.

Raw Material	Quantity in TPA as per CTO	Quantity in TPA for proposed increased production
Dolo Char	129,040	82490
Wet Scrubber Sludge	5900	3110
Pollution Control Equipment Dust	23400	10130
Total	158,340	95,730

12. The power consumption due to the enhancement in sponge iron production is given as below.

Power Requirement of Sponge Iron Plant for production in CTO	Power Requirement of Sponge Iron Plant for the proposed production
90 Units per ton of Sponge Iron	51 Units per ton of Sponge Iron
27,000,000 kwh	19,125,000

Handwritten notes at the top of the page, likely describing the context or objectives of the experiment.

Time (min)	Temperature (°C)	Volume (ml)	Pressure (atm)
0	25	10	1.0
10	25	10	1.0
20	25	10	1.0
30	25	10	1.0
40	25	10	1.0
50	25	10	1.0

Handwritten notes between the two tables, possibly providing intermediate observations or calculations.

Time (min)	Temperature (°C)			
	1	2	3	4
0	25	25	25	25
10	25	25	25	25
20	25	25	25	25
30	25	25	25	25
40	25	25	25	25
50	25	25	25	25

This is the end of the experiment. Thank you for your participation.

14. The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

15. Name of the Consultant: M/s. Vardan Environet (Sl. No. 158 in the List of Accredited Consultant Organizations (Alphabetically) Rev. 81, October, 2019).

Recommendations of the Committee:

16. After detailed deliberations, the committee recommended the project for grant of Environmental Clearance under para 7(ii) of EIA Notification, 2006 for expansion of sponge iron production as mentioned above subject to the following additional conditions:

- i. No groundwater drawl is permitted.
- ii. Air cooled condenser in power plant shall be used.
- iii. Emission levels from Bag filter and ESP shall be 30 mg/Nm³ and 50 mg/Nm³ respectively.
- iv. PP committed for the use of imported coal only. However, the Committee felt that during the non-availability of imported coal, PP shall be using Indian coal. Therefore, the pollution control equipment shall be designed for use of Indian coal.
- v. Zero liquid discharge shall be adopted.
- vi. 100 % waste utilization shall be followed.
- vii. Green belt shall cover plantation of 50,000 saplings in and around the plant site in a time frame of five years.

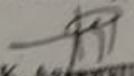
Decision of MoEF&CC

17. The Ministry of Environment, Forest and Climate Change (MoEF&CC) has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to accord environmental clearance for enhancement in sponge iron production from 3,00,000 TPA to 3,75,000 TPA under para 7(ii) of the EIA Notification, 2006 subject to following additional conditions:

- i. No groundwater drawl is permitted.
- ii. Air cooled condenser in power plant shall be used.
- iii. Emission levels from Bag filter and ESP shall be 30 mg/Nm³ and 50 mg/Nm³ respectively.
- iv. PP committed for the use of imported coal only. However, the Committee felt that during the non-availability of imported coal, PP shall be using Indian coal. Therefore, the pollution control equipment shall be designed for use of Indian coal.
- v. Zero liquid discharge shall be adopted.
- vi. 100 % waste utilization shall be followed.
- vii. Green belt shall cover plantation of 50,000 saplings in and around the plant site in a time frame of five years.

18. All other terms and conditions mentioned in the earlier environmental clearance accorded vide letter no. J-11011/267/2007-1A.II(1) dated 02/04/2009, 9/9/2010 and 23/08/2012 shall remain unchanged.
19. The PP shall obtain fresh environmental clearance in case of change in scope of the project if any.
20. This issues with the approval of Competent Authority.

Yours faithfully,


(A.K. Agrawal)
Director

Copy to: -

1. Secretary, Department of Environment, Government of Chhattisgarh Secretariat Raipur.
2. Deputy Director General (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur - 440001.
3. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
4. Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh.
5. Member Secretary, Central Ground Water Authority, West Block -II, Wing -3, Sector I, R.K.Puram, New Delhi - 110086.
6. District Collector, District Raigarh, Chhattisgarh.
7. Guard File / Record file / Monitoring file.
8. MOEF&CC Website.

(A.K. Agrawal)
Director