



INDIAN METALS & FERRO ALLOYS LIMITED

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Ref : PP/ENV/17/1716
Date : 03.11.2017

Dr. A.K. Gupta
Joint Director,
Ministry of Environment & Forests,
Eastern Regional Office,
A/3, Chandrasekharapur,
Bhubaneswar – 751023.

**Sub : Half yearly compliance report of 30 MW expansion
Power Plant (from April'17 to September'17).**

**Ref : 1.Clause no. 3 (xix), General conditions of
Environmental Clearance Letter No. J-13012/77/2007- IA
II (T) dt 27.07.2007
2. Letter from MoEF, Eastern Regional Office dt
09.10.2007**

Dear Sir,

Reference above, we are enclosing herewith half yearly compliance report (April'17 to September'17) in Annexure – I and soft copy of the same in CD for your needful.

Thanking you,
Yours faithfully,
for INDIAN METALS & FERRO ALLOYS LTD.

(B. Mohapatra)
Sr. Vice President, Head – PBU & EIC, Choudwar.

Encl : As above.

cc to : Member Secretary,
State Pollution Control Board, Orissa,
Paribesh Bhavan,
A/118, Nilakanthanagar, Unit – VIII,
Bhubaneswar – 751012.

cc to: Regional Officer,
State Pollution Control Board, Orissa,
586, Suryavihar, Link Road,
Cuttack – 753012.

COMPLIANCE TO CONDITIONS OF MOEF CLEARENCE FOR 30 MW POWER PROJECT																
Sl.No.	CONDITION	COMPLIANCE STATUS														
I)	No additional land shall be acquired for any activity relating to the proposed expansion project	The plant is being constructed within the available land ,adjacent to existing 108 MW power plant, as per the layout finalised for the 30MW expansion project which is under the ownership of IMFA. The relevant documents in this regard has already been submitted to OPCB. Refer Note below.														
ii)	Sulphur content of in coal and middlings to be used as fuel shall not exceed 0.6%	Use of coal with sulphur content limited to 0.6%. <table><tr><td>Month</td><td>Sulphur%</td></tr><tr><td>Apr'17</td><td>0.4108</td></tr><tr><td>May'17</td><td>0.4094</td></tr><tr><td>June'17</td><td>0.4298</td></tr><tr><td>July'17</td><td>0.4000</td></tr><tr><td>Aug'17</td><td>0.4518</td></tr><tr><td>Sept'17</td><td>0.4222</td></tr></table>	Month	Sulphur%	Apr'17	0.4108	May'17	0.4094	June'17	0.4298	July'17	0.4000	Aug'17	0.4518	Sept'17	0.4222
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Apr'17	0.4108															
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Aug'17	0.4518															
Sept'17	0.4222															
iii)	A stack of 45.6 m height. This is subject to the condition that SO2 emission will be kept below 51.2Kg/hr or 277 mg/Nm3. The monitoring data in this regard be regularly sent to the Ministry's Regional Office/SPCB.	Construction of Stack of 45.6 m height is completed. Installation of continuous on-line monitoring system for SO2 emission is completed. The level of emission is found within the norm. Off line analysis result is furnished below. <table><tr><td>Month</td><td>SO2 (mg/Nm3)</td></tr><tr><td>Apr'17</td><td>168</td></tr><tr><td>May'17</td><td>183</td></tr><tr><td>June'17</td><td>155</td></tr><tr><td>July'17</td><td>190</td></tr><tr><td>Aug'17</td><td>184</td></tr><tr><td>Sept'17</td><td>188</td></tr></table>	Month	SO2 (mg/Nm3)	Apr'17	168	May'17	183	June'17	155	July'17	190	Aug'17	184	Sept'17	188
Month	SO2 (mg/Nm3)															
Apr'17	168															
May'17	183															
June'17	155															
July'17	190															
Aug'17	184															
Sept'17	188															
iv)	High efficiency Electrostatic Precipitators (ESPs) shall be installed to limit particulate emission to 100mg/Nm3	ESP with 99.92 % efficiency has been installed and commissioned. During operation PM emission was found to be < 100mg/Nm3. Results are furnished below. <table><tr><td>Month</td><td>PM (mg/Nm3)</td></tr><tr><td>Apr'17</td><td>35</td></tr><tr><td>May'17</td><td>36</td></tr><tr><td>June'17</td><td>35</td></tr><tr><td>July'17</td><td>37</td></tr><tr><td>Aug'17</td><td>37</td></tr><tr><td>Sept'17</td><td>38</td></tr></table>	Month	PM (mg/Nm3)	Apr'17	35	May'17	36	June'17	35	July'17	37	Aug'17	37	Sept'17	38
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Apr'17	35															
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Sept'17	38															

Sl.No.	CONDITION	COMPLIANCE STATUS																					
v)	Low NOx burners shall be provided.	The CFBC boiler of 30MW does not have coal burners. However for efficient combustion of coal the state of the art technology,viz. Fluidized bed combustion has been employed. This boiler is having the added advantage of limiting NO _x emission due to its inherent low temperature(800-900 deg.C) combustion.																					
vi)	CFBC technology with lime injection for removal of SO ₂ up to 70% shall be provided.	Using CFBC technology and lime injection, SO ₂ removal will be more than 70%. Detail calculation sheet has already submitted. Refer note below.																					
vii)	Dust extraction and dust suppression system and water sprinklers shall be provided for controlling fugitive dust during coal transportation, in coal storage & handling area and other vulnerable areas of the plant.	In the 30 MW power plant dust extraction system for CHP, coal bunker & ash silo has been installed and commissioned. Water sprinklers are provided at ground hopper, coal storage area and along road side.																					
viii)	Water requirement shall not exceed 3460 m ³ /day which will be met from river. Necessary permission for drawl of requisite quantity of water shall be obtained from competent authority.	<p>Requirement of water is kept within 3460 m³/day.</p> <table> <tr> <th>Month</th><th>Water consumption (total)</th><th>Water consumption (Avg per day)</th></tr> <tr> <td>Apr'17</td><td>51654 m3</td><td>1722 m3</td></tr> <tr> <td>May'17</td><td>51098 m3</td><td>1648 m3</td></tr> <tr> <td>June'17</td><td>48881 m3</td><td>1629 m3</td></tr> <tr> <td>July'17</td><td>46996 m3</td><td>1516 m3</td></tr> <tr> <td>Aug'17</td><td>52671 m3</td><td>1699 m3</td></tr> <tr> <td>Sept'17</td><td>34406 m3</td><td>1147 m3</td></tr> </table>	Month	Water consumption (total)	Water consumption (Avg per day)	Apr'17	51654 m3	1722 m3	May'17	51098 m3	1648 m3	June'17	48881 m3	1629 m3	July'17	46996 m3	1516 m3	Aug'17	52671 m3	1699 m3	Sept'17	34406 m3	1147 m3
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ix)	Closed circuit cooling system with cooling towers shall be installed.	Close circuit cooling system with cooling tower has been installed and commissioned. Make up to the system is being supplied from the existing 108 MW power plant. The system is operating at 5 to 6 COC.																					
x)	Treated effluents conforming to the prescribed standards shall be recirculated and reused within the plant. No effluents shall be discharged outside the plant boundary.	In the 30 MW power plant no effluent is generated, as treated water from existing 108 MW power plant is in use as make up to the cooling tower. Reuse of boiler blow down water and cooling tower blow down water is going on. No effluent is discharged to outside.																					
xi)	Rain water harvesting shall be practiced. A detail scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority / State Ground water Board and a copy of the same shall be submitted within three months to the ministry.	<p>We have constructed rain water management system with multiple storage reservoirs, for collection and reuse of rain water. We have consulted and obtained clearance of that technology from Central Ground Water Board, South Eastern Region.</p> <p>Letter no. 5-22/SER/CGWB/2016-17 – 1013 dt 27.10.2016 in this regard has been submitted to your good office.</p>																					

SI.No.	CONDITION	COMPLIANCE STATUS																																						
xii)	Leq of noise level shall be limited to 75 dBA and regular maintenance of equipments should be undertaken. For people working in high noise areas, personal protection devices should be provided.	During operation, noise level was regularly monitored and found to be <75 dBA. PPEs have been provided to the peoples working in high noise areas. <table><tr><td><u>Month</u></td><td><u>Noise level (day)</u></td><td><u>Noise level (night)</u></td><td colspan="2"></td></tr><tr><td>Apr'17</td><td>69.1</td><td>67.8</td><td colspan="2"></td></tr><tr><td>May'17</td><td>68.4</td><td>67.3</td><td colspan="2"></td></tr><tr><td>June'17</td><td>69.0</td><td>68.2</td><td colspan="2"></td></tr><tr><td>July'17</td><td>68.8</td><td>67.9</td><td colspan="2"></td></tr><tr><td>Aug'17</td><td>68.7</td><td>67.4</td><td colspan="2"></td></tr><tr><td>Sept'17</td><td>68.9</td><td>68.0</td><td colspan="2"></td></tr></table>				<u>Month</u>	<u>Noise level (day)</u>	<u>Noise level (night)</u>			Apr'17	69.1	67.8			May'17	68.4	67.3			June'17	69.0	68.2			July'17	68.8	67.9			Aug'17	68.7	67.4			Sept'17	68.9	68.0		
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xiii)	Dry ash collection system shall be provided. 100% ash utilisation shall be ensured from day one of the commissioning of the plant.	Dry ash collection system has been provided. Dry ash is now being collected and utilized completely. <table><tr><td><u>Month</u></td><td><u>Ash utilisation%</u></td><td colspan="3"></td></tr><tr><td>Apr'17</td><td>100.03</td><td colspan="3"></td></tr><tr><td>May'17</td><td>99.93</td><td colspan="3"></td></tr><tr><td>June'17</td><td>99.89</td><td colspan="3"></td></tr><tr><td>July'17</td><td>99.91</td><td colspan="3"></td></tr><tr><td>Aug'17</td><td>100.05</td><td colspan="3"></td></tr></table>				<u>Month</u>	<u>Ash utilisation%</u>				Apr'17	100.03				May'17	99.93				June'17	99.89				July'17	99.91				Aug'17	100.05								
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xiv)	A green belt shall be developed around the plant boundary with tree density of around 2500 trees per ha covering 1/3 of the total project area.	Plantation is being carried out regularly. <table><tr><td>Month</td><td>No. of saplings</td><td>Location</td><td colspan="2">Name of saplings</td></tr><tr><td>Apr'17</td><td>Nil</td><td></td><td colspan="2"></td></tr><tr><td>May'17</td><td>Nil</td><td></td><td colspan="2"></td></tr><tr><td>June'17</td><td>50</td><td>Plant area</td><td colspan="2">Nimba, Baula, Kadamba</td></tr><tr><td>July'17</td><td>1650</td><td>BPCo land,</td><td colspan="2">Nimba, Chatiana, Kadamba</td></tr><tr><td>Aug'17</td><td>14750</td><td>BPCo land, Baharampur</td><td colspan="2">Nimba, Karanja, Chakunda</td></tr><tr><td>Sept'17</td><td>1630</td><td>Plant area, ETP, Office</td><td colspan="2">Nimba, Karanja, Lemon</td></tr></table> 14000 nos different fruit bearing saplings distributed between June to Sept'17				Month	No. of saplings	Location	Name of saplings		Apr'17	Nil				May'17	Nil				June'17	50	Plant area	Nimba, Baula, Kadamba		July'17	1650	BPCo land,	Nimba, Chatiana, Kadamba		Aug'17	14750	BPCo land, Baharampur	Nimba, Karanja, Chakunda		Sept'17	1630	Plant area, ETP, Office	Nimba, Karanja, Lemon	
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xv)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase	Complied during construction phase.																																						

SI.No.	CONDITION	COMPLIANCE STATUS												
xvi)	Regular monitoring of ambient air quality shall be carried out in and around the power plant and records maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation of with the State Pollution Control Board. Periodic reports shall be submitted to the regional office of this Ministry at Bhubaneswar.	Ambient air quality monitoring results are enclosed.												
xvii)	The project proponent shall advertise in at least two local news papers widely circulated in the region around the project, one of which shall 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 Ministry of Environment and forests at http: //envfor.nic.in	Advertised in local daily. Viz : Indian Express dt. 31.08.07 & Dharitri (vernacular language) dt.31.08.07												
xviii)	A separate environmental management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Separate environment management cell with qualified staff has been set up and functioning. Furnished below their name & contact number. <table><tr><td>Name</td><td>Contact number</td></tr><tr><td>M.Mukhopadhyay</td><td>9777588612</td></tr><tr><td>J.P.Mahapatra</td><td>9777444162</td></tr><tr><td>M.Mishra</td><td>9937299612</td></tr><tr><td>A.Samantray</td><td>9777441673</td></tr><tr><td>S. Panda</td><td>9777440152</td></tr></table>	Name	Contact number	M.Mukhopadhyay	9777588612	J.P.Mahapatra	9777444162	M.Mishra	9937299612	A.Samantray	9777441673	S. Panda	9777440152
Name	Contact number													
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S. Panda	9777440152													
xix)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry, the Regional office and the CPCB/SPCB.	Being complied. Last report was submitted on 15.05.2017 Letter No. : PP/Env/17/349.												

Sl.No.	CONDITION	COMPLIANCE STATUS
xx)	Regional office of the Ministry of Environment & Forests located at Bhubaneswar will monitor the implementation of the stipulated conditions. Complete set of Environment Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	Complied. Vide letter no. SVP(O)/ENV/06/1791 dt.12.10.2006 & SVP(O)/ENV/07/001 dt.02.04.2007
xxi)	Separate funds shall be allocated for implementation of environmental protection measures along with item wise break up. The cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purpose and year wise expenditure shall be reported to the Ministry.	Details of fund allocation on different heads has been furnished earlier. Capital expenditure incurred for installation of (a) ESP + fly ash handling system is \$850000. (b) Coal dust extraction system + lime handling & dosing system is \$1,030,000. Further, year wise expenditure incurred for environmental protection measures ,during operation of the plant, are being furnished.
xxii)	Full cooperation shall be extended to the Scientists / Officers from the Ministry/ Regional office of the Ministry at Bhubaneswar / CPCB / SPCB who would be monitoring the compliance of environmental status.	Is being Complied.

Note : Reports , write up etc. stated above have been submitted to your good office on 04.11.08 (Please refer our letter no EVP(O)/ENV/2006 dt 04.11.08)

Monitoring data

AMBIENT AIR QUALITY & STACK EMISSION DATA OF 30 MW (APRIL'2017 – JUNE'2017)														
	At coal handling plant				At Power plant lawn				Near 30 MW CHP Control room				Boiler 6	
Month/week	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM	SO2
April'1st week	80	13.4	9.9	43	75	12.1	8	52	88	15.3	10.4	50		
	85	13.8	9.3	41	82	11.5	8.8	38	94	14.4	9.1	48		
2nd week	78	11.8	8.6	39	73	13	10.5	43	86	14.8	8.5	57	34	168
	72	14.4	10.3	47	87	10.4	8	47	81	12.9	10.9	48		
3rd week	84	13.7	11.2	40	90	12.7	10.1	44	97	15.8	12	56		
	87	14.9	8.4	52	83	14.6	11.2	55	91	13.3	10.4	41		
4th week	94	10.6	8.3	45	77	13.1	11.1	40	98	14	9.5	40	36	
	91	14	10.8	38	88	14.4	10.6	35	92	15	12.1	44		
May's 1 st week	86	12.9	9	55	80	12.9	8.6	56	89	16.8	11.2	49		
	83	14.8	10.1	48	84	15	11.2	46	85	15.2	10.1	55		
2nd week	73	13.8	8.4	53	76	13.3	10.2	51	93	14.9	9.2	47		
	89	14.1	8.6	46	89	14.1	9.5	53	90	16.1	10.8	54		
3rd week	82	15.3	11	50	86	13.8	8.7	49	80	14.4	10.8	51	33	183
	76	12.3	9.7	41	74	14.9	12	41	87	13.6	9.7	43		
4th week	92	13.5	10.2	44	90	16.1	10.6	39	95	15.9	11	46	39	
	79	15	9.9	36	68	11.3	8	32	77	12.9	8.8	38		
June's 1 st week	75	14.1	8.8	50	78	12.8	8.5	47	82	13.7	8.3	53		
	80	12.7	9.2	43	72	11.5	7.4	41	91	16.4	9.9	48		
2nd week	72	13.4	10.1	30	65	14.4	10	27	74	14.3	7.8	42	29	
	83	15.9	11.4	33	81	16.4	9.4	21	87	15.2	10.5	25		
3rd week	88	15	8.1	40	69	12.4	8.9	26	71	12.8	9	32		
	72	13.1	9.5	37	70	15.1	10.3	34	66	14.8	8.7	39		
4th week	68	11.2	7.5	24	60	14	9.8	23	58	12.1	8	22	41	155
	85	14.7	8.4	28	83	13.3	7.5	36	77	15.8	10.1	29		

AMBIENT AIR QUALITY & STACK EMISSION DATA OF 30 MW (JULY'2017 –SEPTEMBER'2017)														
	At coal handling plant				At Power plant lawn				Near 30 MW CHP Control room				Boiler 6	
Month/week	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM	SO2
Jul;y'1st week	77	12.9	9.1	38	71	12.7	9.4	40	86	16	10.6	47		
	73	14.1	8.8	42	78	15.2	8.4	23	82	14.9	8.8	28		
2nd week	80	15.1	8	45	68	14.2	7.9	34	75	15.4	7.6	21	30	
	66	12.2	7.8	24	62	13.7	8.9	15	61	12.7	9	19		
3rd week	70	13.5	9.8	17	46	12	7.4	18	57	13.5	8.2	30		
	58	12.6	9.5	27	55	13.9	8.1	20	69	14.3	9.7	25		
4th week	53	13.8	8.5	14	50	11.6	9.8	32	79	13.9	8.7	22	42	190
	60	14.6	10	19	59	14.3	9	29	72	12.1	10.2	36		
August's 1 st week	77	15.8	11	35	63	12.8	8.2	37	83	16.6	12	45	41	
	70	14.5	8.9	44	69	14	7.7	41	78	15.2	10.2	50		
2nd week	65	9.5	7.8	31	56	11.8	9.5	28	67	14.1	9.3	39		
	81	13.3	9.9	26	72	13.4	8.8	25	54	12.8	8	32		
3rd week	74	11.3	8.5	20	60	12	9.2	36	61	13.6	9.7	37	35	
	66	12.4	9.3	23	52	14.3	10.2	22	67	11	7.9	33		
4th week	62	13	10.6	33	47	11.2	9.8	31	58	11.8	10.1	28	34	184
	56	15	9.8	17	55	13.8	10	18	64	13	9.5	23		
Sept's 1 st week	72	12.3	9.5	33	65	11.9	7.7	27	71	15.7	10.8	41		
	78	13.5	8.2	37	74	14	11.1	32	89	16.6	11.9	36		
2nd week	67	14.8	10.3	28	70	13.3	9.1	30	84	14.8	9.9	27	42	169
	63	13.9	9	20	68	14.8	10.5	35	79	13.8	8.8	39		
3rd week	81	15.7	10.9	31	80	15.3	10.9	38	73	14.1	10.3	32		
	75	14.2	8.5	26	56	12.2	8.5	25	67	12.6	8.6	24		
4th week	70	16.2	11.5	29	63	13.8	9.4	21	74	14	9.3	26	33	
	60	12.8	10.7	22	52	11.3	8	28	64	14.4	9.6	34		

Env expndtr, CSR, Plantation

Period	Expenditure incurred on environmental management & solid waste (fly ash) disposal	Plantation, green belt development	CSR activities undertaken
Apr'17 to Sept'17	Operation – Rs. 6,31,197/- Maintenance – Rs.7,52,034/- <hr/> Total – Rs.13,83,231/- Solid waste disposal Rs. 63298694/-	Apr'17 - Nil May'17 - Nil Jun'17 - 50 July'17 - 1650 Aug'17 - 14750 Sept'17 - 1630. 18080 nos. Saplings planted during April – Sept'17 In addition to above plantation carried out by us, 14000 fruit bearing saplings were distributed to nearby areas free of cost.	Free medical check up through out the period near Kapaleswar Laxmi Mandap carried out. 200 nos prefabricated desk and bench were distributed to nearby seven nos schools. Total expenditure under CSR = Rs.7,51,200/-