INDIAN METALS & FERRO ALLOYS LIMITED

imfa

Choudwar - 754071
P.O. Kapaleswar
Dist Cuttack
Odisha, India

TEL +91 671 2494241
+91 671 2494245
FAX +91 671 2494314

choudwar@imfa.in

Corporate Office

IMFA Building
Bhubaneswar -751010
Odisha, India

Corporate Identity No.
L27101OR1961PLC000428

TEL +91 674 3051000
+91 674 2580100
FAX +91 674 2580020
+91 674 2580145

mail@imfa.in

www.imfa.in

Ref : PP/ENV/16/1767
Date : 08.11.2016

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

Sub : Half yearly compliance report of 30 MW expansion Power Plant (from April'16 to September'16).

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'16 to September'16) 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 - Power Business Unit.

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%. Month Sulphur% Apr'16 0.32 May'16 0.38 June'16 0.35 July'16 0.33 Aug'16 0.3767 Sept,16 0.4024
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. Month SO2 Apr'16 150 May'16 188 June'16 165 July'16 179 Aug'16 193 Sept'16 159
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. Month PM Apr'16 39 May'16 43 June'16 45 July'16 39 Aug'16 37 Sept'16 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.	Requirement of water is kept within 3460 m^3/day. Month — Water consumption (total) — Water consumption (Avg per day) April'16 — 54565 m3 — 1819 m3 May'16 — 51676 m3 — 1667 m3 June'16 — 45591 m3 — 1520 m3 July'16 — 50816 m3 — 1639 m3 August'16 — 46082 m3 — 1487 m3 September'16 — 46741 m3 — 1558 m3
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 4 to 5 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.	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. Letter no. 5-22/SER/CGWB/2016-17 – 1013 dt 27.10.2016 in this regard has been submitted to your good office.

Sl.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. Month — Noise level (day) — Noise level (night) April'16 — 69.4 — 68.0 May'16 — 69.5 — 67.7 June'16 — 69.1 — 67.2 July'16 — 68.1 — 66.8 August'16 — 70.1 — 68.2 September'16 — 68.5 — 66.9
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. Month — Ash utilisation% Apr'16 — 100.05 May'16 — 100.02 June'16 — 99.96 July'16 — 99.96 Aug'16 — 99.93 Sept'16 — 100.03
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. Month — No. of saplings — Location — Name of saplings Apr'16 — Nil May'16 — Nil June'16 — 1000 — PP area — Boula, Kaniari, Neem, Chatian July'16 — 6000 — Banipada — Nimba, Chakunda, Karanja, Aug'16 — 7600 — Sankarpur, PP & CCP area — Nimba, Seemarua, Mango Sept'16 — 400 — PP Area — Nimba, Debdaru, Baula.
xv)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase	Complied during construction phase.

Sl.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. Name — Contact number M.Mukhopadhyay — 9777588612 S.K.Mishra — 9777444171 J.P.Mahapatra — 9777444162 M.Mishra — 9937299612 A.Samantray — 9777441673
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 27.05 2016 Letter No. : PP/Env/16/391.
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

Sl.No.	CONDITION	COMPLIANCE STATUS
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'2016 –SEPTEMBER'2016)																						
	At coal handling plant				**Near gate no.6**				**At filter house**				**Power Plant lawn**				**Near 30 MW CHP Control room**				**P.M. Of Blr 6.**	**SO2 Conc.**
Month/week	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	PM	
April'1st week	80	9.1	13.8	52	84	8.3	14.3		72	8	12.8		88	9.5	14		81	8.8	16		38	
2nd week	85	9.8	12.6		78	7.2	13.5	48	75	9.3	14.5		94	8.8	12.6		98	9.9	15			
3rd week	95	9	14.2		87	8.9	13.5		82	7.7	12.3	54	86	8.1	14.2		79	10.3	14.8		39	150
4th week	89	9.3	13.2		81	8.6	12.8		75	7.8	12.2		82	9	15.4	46	68	8.5	14.8	50		
May' 1st week	83	9	13.9	54	79	8.5	12.4		69	7.9	15		87	9.8	16.3		92	10.3	12.9			
2nd week	88	9.1	13.6		81	7.8	15.3	47	72	8.9	14.2		85	9.7	13.9		97	10.5	16.7		42	174
3rd week	92	8.6	14.8		88	7.2	15		80	6.6	13.2	51	78	8.1	14.9		87	9.4	13.6			
4th week	87	9.5	15.4		81	6.2	14.2		85	7.6	15.1		83	8.8	16.2	50	78	7.8	15	53	44	188
June' 1st week	73	6.9	12.8	46	85	7.2	11.9		49	7.7	14.2		78	5.5	10.2		81	7	14			
2nd week	59	7.9	15		52	7.1	16.8	41	71	6	13.1	30	51	5.8	11.7		79	7.5	13.3		38	165
3rd week	68	6.9	15.2		73	7.8	14.3		65	5.9	14.8		44	5	13.8		76	6	14.3			
4th week	81	7	15		74	8	13.9		77	7.3	14.7		40	5.3	10.9	42	66	6.9	15.9	19	52	
July' 1st week	85	7	12.8	39	81	8.5	14.3		72	7.8	13.6		76	6.9	13.3		70	8.3	14.5			
2nd week	60	6.2	13		78	8.9	14.8	24	64	7.1	12.5	21	71	9	15.2		61	6	13.9		40	179
3rd week	53	6.8	12.7		69	7.7	14.4		57	7.4	13.8		66	8.5	14.2	33	68	8.9	12.7			
4th week	50	7.5	15		65	8	14.9		55	7.3	12.5		71	9.5	15.4		77	9.1	14	22	37	
Aug' 1st week	63	8.8	11.2	32	71	9.4	10.8	19	66	9	11.6		75	9.5	12.1		82	8.3	11		34	
2nd week	79	9.8	10.5		76	8.6	11.6		69	8	12.8	16	85	9.8	11.7		68	9	10.9			
3rd week	72	8.7	11.4		80	9.5	11		77	8.3	13.1		81	9.5	11	28	89	10.2	13.5			
4th week	82	10.6	10.9		87	8.6	12.5		53	7.8	10.6		75	10	11.3		84	9.3	12.8	24	39	193
Sept' 1st week	72	8.5	12.8	29	81	9.8	13.8		65	9	11.2		76	10	12.4		84	10.6	14			
2nd week	78	9.4	13.3		92	9	14.8	23	56	8	13.7	19	63	8.9	12		86	10.3	12.9		41	
3rd week	80	8.6	15		88	9.7	12.3		69	8.2	10.9		81	7.6	11.8	17	76	9.2	14.6			
4th week	83	8.7	15.3		74	9.8	11.7		62	7.2	15.1		70	9.4	12.6		79	9.1	14.7	30	38	159

Period	Expenditure incurred on environmental management & solid waste (fly ash) disposal	Plantation, green belt development	CSR activities undertaken
April'16 to September'16	Operation – Rs. 13,62,972/- Maintenance – Rs.3,26,461/- Total – Rs.16,89,433/- Solid waste disposal – Rs. 3,42,96,141/-	April - Nil May - Nil June - 1000 July - 6000 August - 7600 September - 400. **Total - 15000 nos.** In addition to above plantation caried out by us, 50000 saplings were distributed to nearby villages free of cost.	Free mediacal check up through out the period near Kapaleswar Laxmi Mandap carried out. Eighty nos pre fabricated desk and benches were provided to Choudwar Primary School and Saraswati Sisu Bidya Mandir, Daulatabad. Fifty two nos pre fabricated desk and benches were provided to Agrahat Primary School. Cleaning of Kapaleswar temple premises carried out on 11.06.16 under Swacha Bharat Abhijan campaign. Hand washing programe tor angwanbari children of Changuria, Bandalo and Banipada village carried out on 08.06.16. Computer education to school children of Janmejoy UP School is being provided regularly by IMFA employee. Coaching class for students of Agrahat High School is being arranged by IMFA employee on regular basis. Total expenditure under CSR = Rs.4,15,712/-

Ash utilisation status

NAME OF THE INDUSTRY - : Indian Metals & Ferro Alloys Ltd

MONTH WISE STATUS OF UTILIZATION OF COAL ASH (FLY ASH AND BOTTOM ASH)

SL NO.	Month-Year	Coal Consumption (MT)	Power Generation (MW)	Quantity of Fly ash Generated (MT)	Quantity of Bottom ash Generated (MT)	Total ash Generated (MT)	Disposal Method	Brick Manufacturing (MT) (own)	Supplied to other Brick / Block Manufacturing Industries (MT)		Mine void Quarry Filling (MT)		Utilization in Embankment/Dyke Raising (MT)	Other purpose (MT)						Total ash Utilized (MT)	% of Utilization
									With subsidy	Without subsidy	Quarry Filling	Coal Mine Void Filling	Dyke Raising	Road Making	Ceno Sphere	Small land fill	Tiles	Aggregates	Cement Making		
1	**April -2016**	58522.54	60259.3	23292	3594	26886	By Dumper	1939	5100	30	5951	0	0	12960	0	0	0	0	920	26900	100.05
2	May -2016	76379.97	76518.8	32264	3585	35849	By Dumper	1855	4420	0	6462	0	0	22170	0	0	0	100	850	35857	100.02
3	June-2016	84432.4	83112.4	31541	7799	39340	By Dumper	1532	3640	0	10983	0	0	22080	0	0	0	50	1040	39325	99.96
4	July-2016	88792.56	87706	36704	4069	40773	By Dumper	796	3710	0	2314	0	0	33370	0	0	0	79	490	40759	99.96
5	Aug-2016	99059.48	93325.5	31181	13615	44796	By Dumper	504	4310	10	30044	0	0	9900	0	0	0	0	0	44768	99.93
6	Sept-2016	91379.08	91057.8	37199	4588	41787	By Dumper	647	4700	20	32614	0	0	3820	0	0	0	0	0	41801	100.03
7	Oct-2016	97846.7	96614.4	39792	5458	45250	By Dumper	111	4800	0	35405	0	0	4910	0	0	0	0	0	45226	99.95
8	Nov-2016																				
9	Dec-2016																				
10	Jan-2017																				
11	Feb-2017																				
12	Mar-2017																				
Total		596412.73	588594.2	231973	42708	274681		7384	30680	60	123773	0	0	109210	0	0	0	229	3300	274636	**99.98**

Note : MT = Metric ton

With reference to letter no. 1314/IND-IV-PCP-FARC-01 dt 20.01.2015 we are providing fly ash with subsidy for road making and subsidy to brick / block manufacturing unit within 100 KM radius from our power plant.