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Ref : PP/ENV/14/  
Date : 19.05.14

Mr. S.Kerketta,  
Joint Director (S)  
Ministry of Environment & Forests,  
Eastern Regional Office,  
A/3, Chandrasekharapur,  
Bhubaneswar – 751023.

**Sub : Half yearly compliance report of 30 MW expansion  
Power Plant.**

**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 (Oct'13 to Mar'14) 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)**  
**Vice President (Operations) – Power**

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%	Copies of the analysis report of coal and coal middlings indicating, sulphur content in coal to be used in proposed 30 MW power project has already been submitted . Refer Note below.
iii)	A stack of 45.6 m height. This is subject to the condition that SO <sub>2</sub> emission will be kept below 51.2Kg/hr or 277 mg/Nm <sup>3</sup> . 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 SO <sub>2</sub> emission is completed. The level of emission is found within the norm during intermittent trial operation. The data will be collected, and submitted as required in the next report.
iv)	High efficiency Electrostatic Precipitators (ESPs) shall be installed to limit particulate emission to 100mg/Nm <sup>3</sup>	ESP having 4 nos of fields with 99.92 % efficiency has been installed and commissioned. During trial and intermittent operation, PM emission was found to be < 100mg/Nm <sup>3</sup> . Tech. details and write up has already been submitted. Refer Note below.
v)	Low NO <sub>x</sub> 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 will be employed. This boiler will have the added advantage of limiting NO <sub>x</sub> emission due to its inherent low temperature(800-900 deg.C) combustion.
vi)	CFBC technology with lime injection for removal of SO <sub>2</sub> up to 70% shall be provided.	Using CFBC technology and lime injection, SO <sub>2</sub> removal will be more than 92%. 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 proposed 30 MW project 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.

Sl.No.	CONDITION	COMPLIANCE STATUS
viii)	Water requirement shall not exceed 3460 m <sup>3</sup> /day which will be met from river Birupa. Necessary permission for drawl of requisite quantity of water shall be obtained from competent authority.	Requirement of water for proposed project will be kept within 3460 m <sup>3</sup> /day. No further permission is required, because we are already having permission for drawel of 14000 m <sup>3</sup> /day from river Birupa and above requirement will be met after supplying water to existing 108 MW power plant. In this regard water consumption data for last five year and a copy of the permission obtained from Govt authority, to draw water from river Birupa has already been submitted. Refer Note below.
ix)	Closed circuit cooling system with cooling towers shall be installed.	Close circuit cooling system with cooling tower has been installed and commissioned. Raw water is being used in the cooling system and the make up to the system is supplied from the existing 108 MW power plant. The system is envisaged to operate at 4 to 4.5 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 will be generated, as treated water from existing 108 MW power plant will be used as make up to the aux. cooling tower. Reuse of boiler blow down water has been envisaged like we have in the existing 108MW plant. The scheme for utilization of cooling tower blow down water for bottom & fly ash handling system, green belt development, dust suppression system and sprinklers for fugitive dust emission are under progress.
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.	Report submitted. Please refer our letter no. EVP(O)/ENV/09/1598 dt. 24.09.2009 in this regard.
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.
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.
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 will be carried out in 1 Ac = 0.4 hect area. After completion of the project 150 nos of saplings has been planted. About 100 saplings are proposed to be planted during this year monsoon.

Sl.No.	CONDITION	COMPLIANCE STATUS
xv)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase	Complied during construction phase.
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 <a href="http://envfor.nic.in">http://envfor.nic.in</a>	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.	Existing environment management cell of 108 MW power plant is now looking into the implementation of the stipulated environmental safeguards. Name of the personnels and their responsibilities has been defined and has already submitted Refer Note below.
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.

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 (OCTOBER' 2013 –MARCH' '2014 )**

	At coal handling plant				Near gate no.6				At filter house				Near 33 KV switch gear room (30MW)				Near 30 MW CHP control room				P.M. of Blr 6.
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
Oct 1 <sup>st</sup> week	87	7.6	14.1	51	94	6.3	13.3		83	7.2	14.5		104	6	12.2	32	129	5.3	10.1		90
2 <sup>nd</sup> week	81	6.8	15		98	7.1	14.7		89	7.9	15.7		77	7.9	15.4		98	5.8	11.7	51	
3 <sup>rd</sup> week	95	6.6	14.6		85	8.1	14.9	35	97	7.4	15.2		85	7.3	16.1		79	8.9	14		81
4 <sup>th</sup> week	106	6.1	13.8		90	7	15.7		83	8.3	14.4	40	59	5.5	9.1		62	6.9	10.8		
5 <sup>th</sup> week													116	7.8	13.2		91	6.7	14.8		
Nov 1 <sup>st</sup> week	109	7.9	13.8	68	96	8.1	14.1		102	7.5	13.4		108	6.7	11.8	67	124	8.8	15.2		70
2 <sup>nd</sup> week	92	6.9	13.5		103	8.5	14.8	56	89	6.8	14.2		93	5.3	10.5		110	7.5	11	71	
3 <sup>rd</sup> week	105	8.6	15.1		90	7.7	14.6		106	8.1	15.2	50	131	8.8	13.3		120	7	10.9		54
4 <sup>th</sup> week	112	7.9	14.9		97	6.9	13.2		95	7.8	14.7		89	7.2	9.7		107	6.4	10.8		
Dec 1 <sup>st</sup> week	139	6.9	15.1	72	118	7.4	14.2		162	7.1	15.2		95	9.8	13.7	74	112	5.7	14.9		84
2 <sup>nd</sup> week	126	6.8	14.9		152	6.9	15.2	64	129	7.8	13.2		140	7.4	16.6		131	6.3	15	69	
3 <sup>rd</sup> week	178	8.1	14.3		131	7.5	15.2		143	7.9	15	58	156	7.8	14.3		169	8.4	15.2		75
4 <sup>th</sup> week	151	8.2	14.7		120	7.4	15.1		141	7.7	13.9		114	8.8	13.4		140	9.3	14.5		
Jan 1 <sup>st</sup> week	112	6.3	15.6	63	103	7.1	16.1		118	6.9	14.7		127	9.9	14.4		139	7.2	13		60
2 <sup>nd</sup> week	123	7.4	15.8		110	7	16.3	54	106	7	14.1		108	8.4	15.9	62	120	5.8	14		
3 <sup>rd</sup> week	108	7.8	15.8		109	7.6	13.7		115	8.1	16.1	57	112	7.2	17.1		131	6.4	9.9	67	52
4 <sup>th</sup> week	119	6.6	15.2		104	7.2	13.6		121	7.6	14.1		90	11.1	17.3		100	7.8	15.9		
Feb 1 <sup>st</sup> week	97	7.7	14.8	54	91	6.9	15.3		95	7.9	13.2		88	7.8	15.2	55	93	8.8	14.4		
2 <sup>nd</sup> week	102	6.5	16.1		96	7.1	15	58	89	6.2	15.8		81	6.3	13.8		98	7.9	16.2	60	78
3 <sup>rd</sup> week	112	6.9	15.2		94	7.9	16		108	8.1	13.5	66	112	8.2	14.4		121	4.3	16.2		
4 <sup>th</sup> week	127	7.2	14.5		110	8	15.6		104	7.8	14.5		130	8.8	12.9		141	7.3	14.9		89
Mar 1 <sup>st</sup> week	115	8.1	15.7	66	108	7.2	13.9		92	7.8	14.8		71	5.8	13.3	48	85	7.2	14.9		
2 <sup>nd</sup> week	132	6.5	13.4		94	7.7	14.1	53	109	8	14.8		111	8.3	15.5		122	7	14.4	71	94
3 <sup>rd</sup> week	93	7.5	15.4		109	8.1	14.9		126	7	16.1	62	128	5.8	13.7		139	6.8	16.6		75
4 <sup>th</sup> week	118	7.9	15.2		90	6.9	13.6		110	6.3	14.4		150	7.3	15.8		162	8.5	14.2		

Env expndtr, CSR, Plantation

Period	Expenditure incurred on environmental management	Plantation, green belt development	CSR activities undertaken
October'13 to March'14	<p>Operation – Rs.20,21,760/-</p> <p>Maintenance – Nil</p> <p>Total – Rs.20,21,760/-</p>	<p>Oct - Nil</p> <p>Nov - Nil</p> <p>Dec - Nil</p> <p>Jan'14 - Nil</p> <p>Feb - Nil</p> <p>Mar - Nil</p>	<p>Six nos. bore-well dug in ward no. 7,8,11 &amp; 12. of Choudwar Municipality. Two nos. toilet constructed in Netaji Primary school and Virat Cuttack Primary school of ward no. 10 &amp; 11 of Choudwar Municipality. 30 girls &amp; ladies were sponsored for tailoring training at Apparel training and design center (ATDC, Choudwar under Ministry of Textile, Govt. of India). One health camp was organised at Agrahat GP. Two nos. steel almirah was donated to Harihar Juva Parishad for storing of library books.</p>