

Ref: ASL/SP/MOEF/Env./

Date: 21.05.2012

To

**The Chief Conservator of Forests (C),**  
Government of India, Ministry of Environment & Forests,  
Eastern Regional Office,A/3, Chandrasekharpur,  
Bhubaneswar – 751023,Fax: 0674-2302432.

**Sub: Compliance to the Environmental Clearance accorded by the Ministry to the project “0.5 MTPA Integrated Steel Plant and 50 MW CPP by M/s Aarti Steels Limited at village Ghantikhal in distt.Cuttack in Orissa-regarding”.**

Ref: Environmental Clearance letter no.J.11011/158/2004-IAII (I) dated 16.02.2005.

Dear Sir,

With reference to above, please find enclosed the status of compliance for the period from 01.11.2011 to 30.04.2012 as indicated below:

1. Progress on the construction of the project-as annexure-A.
2. Analysis data on ambient air quality has already been submitted vide our letter no. ASL/SP/MOEF/Env./ 45696 dated 19.05.2012.However, analysis data on stack gas and noise quality is enclosed as annexure-B.
3. Point wise status of compliance of Environmental Clearance-as annexure-C

Thanks & Regards,

For Aarti Steels Ltd,

**(LTP Narayan)**

**President (SI &P)**

Encl: As above

**Copy to:Dr.P.L.Ahujarai,Director,**

IA Division (Industry),

Ministry of Environment and Forests,Paryabharan Bhawan,

CGO Complex,Lodi Road,New Delhi-110003, e-mail: [plahujarai@yahoo.co.in](mailto:plahujarai@yahoo.co.in)

Fax:011-24367668.

Annexure-A

**PHASE WISE DEVELOPMENT OF PROJECT AND PROGRESS ON THE CONSTRUCTION OF THE PROJECT**

<b>Product Portfolio (Proposed capacities)</b>	<b>Item</b>	<b>Capacity</b>	<b>Status</b>	<b>Target</b>
	<b><u>Phase-IA</u></b>			
	Coal washery	1.0 MTPA	All the facilities are completed and in operation.	
	Sponge Iron Kiln-1	500 TPD – 1 no.		
	Captive Power Plant	40 MW – 1 no		
	Ladle Refining Furnace	26 T – 2 nos.		
	Billet Caster	2 Strand – 7/14 radius – 1 no.		
	2 x 9 MVA Ferro-Alloys Plant	25000 TPA		
	<b><u>Phase-IB</u></b>			
	Electric Arc Furnace-1, V.D.	35 Ton	Completed & in operation.	
	Sponge Iron Kiln-2 & WHRB-2	500 TPD & 10 MW	Completed & in Operation	
	Electric Arc Furnace-2	35 Ton	Yet to be started	By Dec.2013
	Bloom Caster		Yet to be started	By Dec.2013
	<b><u>Phase – II</u></b>			

	Mini Blast Furnace	250 M <sup>3</sup>	Yet to be started	By Dec. 2013
	Bloom Caster	2 strand - 01 no.		By Dec.2013
	Billet Caster	2 strand - 01 no		By Dec.2013
	AOD	35 T - 01 no.		By Dec.2013
	LRF	26 T -01 no		By Dec.2013
	LRF	35 T -01 no		By Dec.2013
	Bar & Rod Mill	500000 T/Yr.		By Dec.2013
	Wire Drawing Unit			By Dec..2013

**Dt:17.05.2012**

**ANNEXURE-C**

**Compliance status of specific and general conditions of environmental clearance letter no. J.11011/158/2004-IA II (I) dated 16.02.2005 issued by Ministry of Environment and Forests, Government of India.**

Sl. No.	Specific Conditions	Compliance
A (i)	<p>The gaseous emissions from various process units should conform to the load/mass based standards notified by this Ministry on 19<sup>th</sup> May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.</p> <p>At no time the emission level should go beyond the prescribed standards.</p> <p>In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>The gaseous emissions(Particulate Matter) from various process units i.e. stack attached to AFBC Boiler, WHR Boiler, DRI unit, SMS unit &amp; Ferro Alloys unit are being monitored once in a month (stack monitoring reports are enclosed for reference).It can be observed from the reports that the units mentioned above confirm to the concentration based standards notified by the Ministry i.e. 150 mg/Nm<sup>3</sup>.We would like to inform that as per the O.S.P.C.B. consent to establish condition we are maintaining the particulate emission from the above mentioned process units below 100 mg/Nm<sup>3</sup> which can be referred from the enclosed stack monitoring reports. However, Mass/Load based standard notified by the ministry for integrated steel plant is not applicable in our case, as we do not have Coke Oven plant right now. Hence, we request you to recommend to waive out this specific condition for our case</p> <p>At no time the emission level goes beyond the prescribed standards as the installed pollution control devices i.e. ESPs &amp; Bag Filters are designed to ensure emission level below the prescribed standards i.e.100mg/Nm<sup>3</sup>.</p> <p>In the event of failure of any pollution control system adopted by the unit, the pollution control system is being rectified to achieve the</p>

		desired efficiency first and then only we are restarting the respective unit.
(ii)	<p>There should be no discharge of process effluent. As reflected in the EIA/EMP report, the waste generation of 456m<sup>3</sup>/d (384m<sup>3</sup>/d of process and 72m<sup>3</sup>/d of domestic effluent) from the various sources will be generated. The company shall achieve zero discharge by use of treated effluent in the process. The blow down from the cooling tower, coolers and RO plant shall be utilized for ash slurry after neutralization and overflow from ash slurry shall be recycled.</p> <p>There shall be no discharge of water from the Coal Washery and company shall adopt closed circuit system.</p> <p>The domestic wastewater after treatment in STP should be used for green belt development.</p>	<p>We are not discharging any process effluent (water Balance diagram is enclosed for reference as annexure-C-I).The blow down water from cooling tower, Boiler, coolers &amp; RO plant after treatment in neutralization pit is collected in wastewater sump and the same is reused for slurry making. Overflow decanted water from ash slurry is collected in wastewater sump and recycled. Thus the company achieves zero discharge by using treated effluent in the process.</p> <p>We are not discharging water from the Coal Washery. The entire floor cleaning materials of the Coal Washery is collected in the ground floor sump in the form of slurry. The slurry is pumped back in the prime reject screen from where coal &amp; magnetite is separated. Thus we are adopting closed circuit system.</p> <p>Domestic effluent of Factory premises and colony are discharged to individual soak pits via septic tanks.</p>
(iii)	In plant control measures for checking fugitive emission from spillage of raw materials handling should be provided.	Dust suppression system for raw material handling area has already been commissioned. All transfer points of belt conveyor have been provided with spray nozzles for suppressing the dust. Suction hoods have been provided at all transfer points in finished product circuit for which bag house has been installed to control fugitive emission.All conveyors, transfer points etc has been provided with enclosures Water spraying arrangement has been provided in coal yard, truck tippler. We have already installed arm sprinklers for Coal Stock Yard .Further; we have drawn high pressure water pipe line in the coal yard to moisten the coal before loading in the dumpers for feeding to coal

washery. This has substantially reduced the dust generation during further processing.

In addition to above,

-Regular water Spraying & cleaning is being practiced on the internal roads. Out of 5.1 KM internal roads, 4.6 KM internal roads have been blacktopped. Blacktopping of remaining roads is under progress and shall be completed by 15<sup>th</sup> June, 2012.

-We have installed arm sprinklers for dust suppression at Iron Yard & Railway Siding area

-We have provided rotating sprinkler system in DRI unit and on the road from Iron Ore Crushing unit to DRI cooler discharge unit for dust suppression.

-Water Spraying arrangement using 14 KL tanker is being made during non-monsoon period for Dust Suppression along the internal roads, Coal Stack yard and other areas for effective dust control. Also manual water spraying arrangement using water hose has been made for dust control.

-We have installed rotating sprinkler for dust suppression on the way from Power Plant area to waste water sump area.

-We have already installed rotating sprinklers in SMS & FAP unit.

-Adequate pneumatic dust handling system at the hoppers of CFBC (ESP), AFBC ESP, WHRB ESP & DRI Bag Filter has already been installed & operating satisfactorily. Collected dust gets disposed off in

ash pond in slurry form along with Ash of CPP.

-Bottom ash is being disposed off in ash pond in slurry form along with ash of CPP.

- The solid waste generated are being suitably disposed off within the premises without creating any dust nuisance or environmental contamination.

-Material transportation through trucks, tippers etc is being carried out in covered condition to avoid spillages and dust emission.

-Unloading of materials by trucks is being carried out with proper care avoiding dropping of the materials from height. The material is being moistened by sprinkling water while loading/unloading.

However,in order to improve the AAQ in and around our plant premises ,further,we have installed additional Bag Filter for Capacity enhancement of existing bag filter of DRI Kiln as per recommendation of M/s IIT, Kharagpur to control fugitive emission.

Swiveling canopy hood over the induction furnace has been provided. The furnace gas is being cooled by the provision of dilution air addition in duct and is being cleaned through bag filter and is discharged to atmosphere through a stack of height of 35 meter at a temperature of 100<sup>0</sup>C and at a particulate matter concentration below 100mg/Nm<sup>3</sup>. However, now company has opted steel making through DR-EAF route in place of DR-IF route and hence induction furnaces

	<p>The project authorities shall ensure the control of secondary fugitive emissions from the electric arc furnace/induction furnace during charging of scrap and tapping by provision of canopy hood over the furnaces and undertaking engineering modifications as has been done in the existing unit at Ludhiana. Fugitive emissions from continuous casting of molten metal into various products shall be controlled by installation of adequate fume extraction system. Further specific measures like provision of dedusting system, bag filters; water-spraying system to suppress the dust at transfer points shall be taken.</p> <p>Data on fugitive emissions should be regularly monitored and records maintained.</p>	<p>are not in operation now and has been dismantled since May,2009.Fugitive emission from ladle refining furnace is being cleaned through bag filter and is discharged to atmosphere through a stack height of 35 meter and at a particulate matter concentration below 100mg/Nm3.</p> <p>Fumes coming out from EAF at around 1200 °C is diluted and cooled in water cooled duct, gas cooler &amp; mixing chamber to 120°C before entry to baghouse for cleaning. Swiveling canopy hood over the ladle refining furnaces (2 sets) has been provided. The furnace gas is passed through mixing chamber. The fumes of EAF &amp; LRFs after passing through common mixing chamber at a temp. of about 120 °C is cleaned in a common bag filter &amp; discharged to atmosphere through a common stack of height of 40 meter and at a particulate matter concentration below 100 mg/NM3.</p> <p>.</p> <p>Data on fugitive emission monitoring(monitored monthly since April-2012 as per your advice) is enclosed at annexure <b>C-II</b> for reference.</p>
(iv)	<p>The company shall use the heat recovered from the DRI plant in waste heat recovery boilers. The particular emissions from the DRI plant and waste heat recovery boiler shall be controlled by installation of ESP and particulate emissions shall not exceed 100 mg /Nm<sup>3</sup>.</p> <p>Further, the company should install dust catchers and gas-cleaning plant for blast furnace top gas for subsequent use in stove heating, re-heating furnace and ladle heating etc. The flue gas should be</p>	<p>Waste heat recovery boiler has been installed for recovering sensible heat of approximately 110,000 Nm3/h of waste gas coming out of kiln at around 950-1000 °C with an inlet dust load of 30g/Nm3.Pre-Collector followed by ESP has been installed to control the particulate emission below 100 mg/Nm3 &amp; brings the flue gas temperature down to 120° C temperature and finally the flue gas is directed through a chimney of appropriate height to atmosphere.</p> <p>Shall be Complied along with the installation of blast furnace.</p>

	discharged through stack of appropriate height.	
(v)	<p>Pressure drop measuring system across the bag filters should be installed.</p> <p>Particulate matter emissions should be measured hourly besides continuous monitoring.</p>	<p>Pressure drop measuring system across the bag filters has already been installed.</p> <p>Particulate matter emissions from the stack now is being measured once in two month (stack monitoring report is enclosed for reference).Installation of continuous monitoring system is not applicable to our case as per new notification of MOEF dated 6<sup>th</sup> April,2011 which states that the plants having steel making capacity of 1.0 MTPA &amp; above and power generating capacity of 500 MW and above are required to establish permanent On-line Ambient Air Quality Monitoring and continuous stack monitoring facilities for all the stacks.</p>
(vi)	Proper acoustic enclosures should be installed to control noise load from the DG sets as per EPA standards.	DG set has been housed in enclosed room. The noise load from DG set is found to be 84.2 dB (A) which is with in the norm as per EPA standard i.e.85dB (A). Also the persons working are not being affected due to the noise load of DG sets as it runs only incase of power failure for which persons are exposed to the DG set for very short duration with ear muff.
(vii)	Company should keep proper house keeping within the plant premises.	Proper House Keeping with in the plant premises is being carried out. Continuous efforts are being made to improve it further. However, in order to give focused attention on improvement of House Keeping, we are observing House Keeping Week in all the units. Inspection for improvement in House Keeping is being ensured by our Safety, Health & Environment Sub-Committee. Dedicated team has been constituted in all the units to maintain proper house keeping.
(viii)	The company shall prepare time bound action plan for solid waste management and submit to the Ministry within three months.	Action plan for Solid Waste Mgmt.has already been prepared and submitted to the ministry keeping in view proper Soild Waste Mgmt.A copy of the said report is enclosed vide <b>annexure-C-III</b> .However,we have taken the following measures to reduce solid waste generation, its

proper utilization and disposal:

Rejects of coal washery are being used as fuel in AFBC boiler for generation of steam. 90% of Char generated is being utilized in CFBC power plant. The kiln accretion is being dumped in allocated solid waste disposal area of our plant. DM resin from process is being disposed-off in impervious lined pit with cover. Used oil is being sold to regd. Recyclers/re-refiners only. Constructed used oil storage shed with concrete platform for storage of used oil (a hazardous waste). Constructed bio-medical waste disposal pit for disposal of our First Aid Centre bio-medical waste. Also provided canteen waste disposal pit. We are recycling rejected dedusting bags in to carry bags etc.

In addition to above, we have taken the following measures to further reduce solid waste generation, its proper utilization and disposal:

- Provision of Belt press to achieve Zero discharge and utilization of microfines of Coal.

- Constructed a new coal screening building at a cost of approx. 3 crores for screening of coal fines of 4 mm and routing the same to boiler without passing through washery. As a result waste fines generated in the washery has been reduced from 12% to 3% (approx.)

- Installed coal discard circuit for utilization of low calorific value coal in boiler.

- Use of Bottom ash of Boiler as soil conditioner for plantation development.

-Utilising -1 mm microfines of coal in our CFBC Boiler.

-Installed briquette plant for briquette making utilizing bag filter chrome dust.

-Installed slag crushing unit inside our plant premises for iron recovery from EAF slag and after iron recovery the slag is being utilized for road making/low lying land filling etc.to the maximum and the rest is being dumped on designated dump site inside the factory premises.

-Installed jigging plant for recovery of ferro alloys from it's slag.

-Utilising H.C. Ferro Chrome Slag as replacement aggregates for non-critical construction jobs since Sept.,2011 to the maximum and the rest is being dumped on designated dump site inside the factory premises.

**Fly Ash Utilization**

Wet fly ash of Ash Pond along with moorum is being utilized for ash dyke raising. There will be provision for increasing the capacity of ash pond by raising its height further. Efforts are on to find the option for utilizing the Boiler Ash in Cement Making/Brick Making/Road/Embankment/Dam Making/Soil Conditioner for crop and plantation development/Concrete Work/Land Fill/Back filling of low-lying land and discarded mines etc. so that disposal of ash Pond is reduced to maximum possible extent.

We wish to inform you that we are generating around 500 TPD of good quality Fly Ash from our 40 MW CPP. We would like to inform you that we have utilized 30% fly ash in the year 2010-2011 and achieved 32% utilization in the year 2011-2012 by utilizing the Fly Ash in Brick Manufacturing/Land Filling/Ash dyke Raising etc.

In order to boost the utilization further, we have taken the following steps:

-Utilising of fly ash for citrus plant development on Test Basis.

-Utilising fly Ash as soil conditioner for plantation development inside our plant premises.

- The civil construction is being carried out with 100% fly ash bricks only.

-We have discussed with a cement manufacturer (M/s J.K.Mahalaxmi Cement )who is setting up a cement plant by 2014 adjacent to our plant for manufacturing of pozzulona cement by utilizing our fly ash. The party has already agreed to use our fly ash in their plant.

-Plan to utilize fly ash for citrus & fruit plant development on large scale basis by 2012.

-We are also exploring the possibility to tie up with the party who can lift bulk of Fly Ash.

-We have placed order on C-FARM,New Delhi for providing solution for 100% utilization of fly ash. Report has been received in Sept.-2011. Suggestions shall be implemented as per approval of the management in a phased manner by 2014.However,as per their advice we have supplied 75 Ton of Fly Ash to farmers of diff. villages in Cuttack ,Jagatsighpur & Kendrapada areas for utilizing the fly ash on their land on trial basis for rice cultivation. As reported by CRRRI verbally,the test result is satishfactory.However,the detailed report in writing is expected to be received by June,2012 after which our fly ash

is expected to be utilized in other districts on large scale basis by 2013.

In order to boost the utilization of fly ash,we have written to the following Agencies for lifting/utilizing our Fly ash as per their requirement for **road/dam/embankment construction/land filling/Reclamation of waste & degraded land/ Brick & Cement Making/Soil Conditioner for Crop & Plantation development** etc.

\*TIFAC,Fly Ash Utilisation Programme,New Delhi

\*CEO,Hazelberg Asia Pvt.Ltd.,Singapore.

\*The Assistant executive Director,Ms OCL,Cuttack.

\*The CMD, MCL, Burla.

\*The Project Director,NHAI,Bhubaneswar

\*The Vice-Chairman,CDA,Cuttack

\* The Vice-Chairman,BDA,Bhubaneswar.

\*The Divisional Railway Manager RM,E.Co.Rly,Khurda Road,

\*The Executive Engineer,NH Division,Dhenkanal

\*The Chief Engineer (Construction), Rail Vihar,Bhubaneswar.

\*The Commissioner, BMC,Bhubaneswar.

\*The Commissioner,CMC,Cuttack

		<p>* The Director (Mines),Bhubaneswar</p> <p>*The Director, Agriculture Dept., Bhubaneswar etc.</p>
(ix)	A green belt shall be developed in an area of 100 ha. Of plant area as per the CPCB guidelines.	We would like to inform you that up till now we have planted around 50000 nos of trees covering an area of 35 Ha .Out of 283.4 Ha of our total plant area approx. 68 Ha is already covered under thick plantation since beginning of the project. We are also taking the maintenance of these existing plantations. Hence out of 283.4 Ha, total 103 Ha (plant layout showing 103 Ha plantation is enclosed vide <b>annexure-C-IV</b> ) is already covered under plantation and only 180.4 Ha area is vacant area for project development.However,plantation in vacant areas has already been undertaken. The non covered areas are being planted in phased manner.
(x)	The company should undertake rainwater-harvesting measures to harvest the rainwater for utilization in the lean season as well as to recharge the ground water table.	We have prepared a scheme for surface-run off rain water harvesting in consultation with Professor, IIT, Kharagpur.As per the scheme, now the rain water is routed through a series of settling pits and finally collected in 100x80x5 m size rain water harvesting pit( <b>already constructed</b> ). Water harvested from the pit shall be pumped to our raw water reservoir during the ensuing monsoon.The work of Installation of Pumps,Pipelines etc. for transporting the collected rain water to raw water reservoir for recycling is under progress and shall be completed by 15 <sup>th</sup> June 2012.
(xi)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done once in a year and records are maintained as per the Factories Act.
(xii)	Recommendations made in the CREP should be implemented.	The CREP recommendation compliance/action plan report is enclosed

vide annexure-C-V.

<b>Sl. No.</b>	<b>General Conditions</b>	<b>Compliance</b>
B (i)	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board and the State Government.	Accepted.
(ii)	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Accepted
(iii)	<p>At least four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the State Pollution Control Board / Central Pollution Control Board once in six months.</p> <p>Data on ambient air quality and stack emission should be submitted to this ministry including its regional office at Bhubaneswar and the SPCB/CPCB once in six months.</p>	<p>Location of four ambient air quality monitoring stations have already been finalized in downward direction as well as where maximum ground level concentration of PM<sub>2.5</sub>, RSPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the Orissa State Pollution Control Board.</p> <p>Data on ambient air quality monitored for the parameters PM<sub>2.5</sub>, RSPM, SO<sub>2</sub>, NO<sub>x</sub>, CO twice in a week for the month of Nov-2011 to April-2012 and Data on Stack air quality monitored for the parameters P.M., temperature and velocity once in a month for running plants is being submitted once in six months.</p>
(iv)	Industrial waste water should be properly collected treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended form time to time. The treated wastewater should be utilized for plantation purpose.	Since the Industrial waste water is not being discharged outside and is being utilized inside our plant for slurry making and plantation purpose, hence the standards prescribed under GSR 422(E)

		dated 19 <sup>th</sup> May,1993 and 31 <sup>st</sup> December,1993 or as amended from time to time is not applicable to our case.
(v)	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time)	The overall noise levels in and around the plant area is being kept well within the prescribed standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures as applicable etc. on all sources of noise generation. The overall noise levels in and around the plant area is being monitored once in a month The noise monitoring reports are enclosed for reference which shows that the noise level is well within the standards of 85dB (A) for noise generating sources also it can be noted from the report that the ambient noise levels also conform to the standards prescribed in EPA Rules, 1989 viz.75dB (A)(day time) and 70 dB(A) (night time).
(vi)	<p>The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report.</p> <p>Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.</p>	<p>All the environment protection measures and safeguards recommended in the EIA/EMP report are being complied in a phased manner.</p> <p>Social infrastructure and peripheral development work report done so far has been attached vide annexure-<b>C-VI</b>.</p> <p>Further regarding health care- regular health check up of local people of Dhurusia,Mahakalabasta,Ghantikhal &amp;Kakhadi villages are being carried out by our company</p>

		Doctor & Pharmacist using mobile health van.
(vii)	The project authorities shall earmark an amount of Rs. 40 Crores (as indicated in question no. XIX (b) of the questionnaire submitted to the Ministry to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Please refer annexure- <b>C-VII</b> for financial provision of 40 Crore for the implementation of the EMP. We abide that the funds so provided shall not be diverted for any other purpose. Expenditure Incurred on Environmental Protection Measures till 30.04.2012 by M/s Aarti Steels Limited,Ghantikhal is enclosed vide <b>C-VIII</b> .
(viii)	The Regional Office of this Ministry at Bhubaneswar/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	The stipulated conditions are being monitored by the Regional Office of the Ministry at Bhubaneswar/Central Pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data along with statistical interpretation are being submitted to them regularly.
(ix)	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/Committee any may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This should be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.	Already Complied (copy of the advertisement is enclosed as annexure- <b>C-IX</b> for reference).
(x)	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Date of financial closure of the project:March, 2004. Date of Final approval of the project: February,2005 Date of commencing the land development work: Sept., 2004.

(3)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Accepted.
(4)	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.	Accepted
(5)	The above conditions will be enforced, inter-alia under the provisions of the water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	Accepted

Dt:17.05.2012

Annexure-C-V

**PLAN FOR COMPLYING THE RECOMMENDATIONS OF CREP AT M/s AARTI STEELS LIMITED,Ghantikhal,Cuttack.**

The point wise action plan as applicable to us as on date for complying the recommendations of CREP are as indicated below:

**2. Steel Melting Shop**

**Fugitive emissions to be reduced to 100% by March 2008 - Complied.**

Fumes coming out from EAF at around 1200 °C shall be diluted and cooled in water cooled duct, gas cooler & mixing chamber to 120°C before entry to baghouse for cleaning. Swiveling canopy hood over the ladle refining furnaces (2 sets) has been provided. The furnace gas shall be passed through mixing chamber. The fumes of EAF & LRFs after passing through common mixing chamber at a temp. of about 120 °C shall be cleaned in a common bag filter & shall be discharged to atmosphere through a common stack of height of 40 meter and at a particulate matter concentration below 100 mg/NM3.

**4.Solid Waste/Hazardous Waste Management**

**SOLID WASTE MANAGEMENT**

We have taken the following measures to reduce solid waste generation, its proper utilization and disposal:

Rejects of coal washery are being used as fuel in AFBC boiler for generation of steam. 90% of Char generated is being utilized in CFBC power plant.The kiln accretion is being dumped in allocated solid waste disposal area of our plant.DM resin from process is being disposed-off in impervious lined pit with cover. Used oil is being sold to regd. Recyclers/re-refiners only. Constructed used oil storage shed with concrete platform for storage of used oil (a hazardous waste).Constructed bio-medical waste disposal pit for disposal of our First Aid Centre bio-medical waste. Also provided canteen waste disposal pit. We are recycling rejected dedusting bags in to carry bags etc.

In addition to above, we have taken the following measures to further reduce solid waste generation, its proper utilization and disposal:

- Provision of Belt press to achieve Zero discharge and utilization of microfines of Coal.
- Constructed a new coal screening building at a cost of approx. 3 crores for screening of coal fines of 4 mm and routing the same to boiler without passing through washery. As a result waste fines generated in the washery has been reduced from 12% to 3% (approx.)
- Installed coal discard circuit for utilization of low calorific value coal in boiler.
- Use of Bottom ash of Boiler as soil conditioner for plantation development.
- Utilising -1 mm microfines of coal in our CFBC Boiler.
- Installed briquette plant for briquette making utilizing bag filter chrome dust.
- Installed slag crushing unit inside our plant premises for iron recovery from EAF slag and after iron recovery the slag is being utilized for road making/low lying land filling etc.to the maximum and the rest is being dumped on designated dump site inside the factory premises.
- Installed jigging plant for recovery of ferro alloys from it's slag.
- Utilising H.C. Ferro Chrome Slag as replacement aggregates for non-critical construction jobs since Sept.,2011 to the maximum and the rest is being dumped on designated dump site inside the factory premises.

#### **100%Utilization of Steel Melting Slag by 2007-**

We would like to inform you that we have already installed slag crushing unit inside our plant premises for iron recovery from slag and after iron recovery the slag is being used for road making/low lying land filling etc. to the maximum and the rest is being dumped on designated dump site inside the factory premises.

## **HAZARDOUS WASTE MANAGEMENT**

Inventory of the Hazardous waste as per Hazardous Waste (M&H) rules, 1989 as amended in 2000 has already been carried out and the rules are being implemented. The details of Hazardous waste management at M/s Aarti Steels Limited(Steel & Power),Ghantikhal is as follows.

### **HAZARDOUS WASTE MANAGEMENT AT M/S AARTI STEELS LIMITED(STEEL & POWER),GHANTIKHAL**

<b>Sl No.</b>	<b>Waste Description</b>	<b>Waste Class/Stream</b>	<b>Schedule</b>	<b>Quantity/Year</b>	<b>Disposal</b>
01	Used Oil	5.1	1	10KL	Being sold to regd. re-refiner.
02	Waste containing oil	5.2	1	0.3 T	Being disposed off in impervious pit with cover.
03	Spent resin from DM plant	34.2	1	3000 Lit (in 4 years)	Being disposed off in impervious lined pit with cover.
04.	Flue Gas Cleaning Residue.	13.1	1	165 T	Used in Briquette manufacturing.

## **5. Water Conservation/Water Pollution**

-Specific water consumption is estimated to be 1.5 m<sup>3</sup>/t for long products.

- Full utilization of Blow down and waste water for slurry making thereby optimizing the water requirement. We are not discharging any process effluent. The blow down water from cooling tower, Boiler, coolers & RO plant after treatment in neutralization pit is collected in wastewater sump and the same is reused for slurry making. Overflow decanted water from ash slurry is collected in wastewater sump and recycled. Thus the company achieves zero discharge by using treated effluent in the process

#### **6. Online monitoring facility :**

Installation of continuous on line monitoring system is not applicable to our case as per new notification of MOEF dated 6<sup>th</sup> April, 2011 which states that the plants having steel making capacity of 1.0 MTPA & above and power generating capacity of 500 MW and above are required to establish permanent On-line Ambient Air Quality Monitoring and continuous stack monitoring facilities for all the stacks.

#### **7. Efficient Operation of Pollution Control Equipments**

To operate the existing pollution control equipment efficiently and to keep proper record of run hours, failure time and efficiency with immediate effect. Compliance report in this regard to be submitted to CPCB/SPCB every three months-**Being Complied.**

#### **9. Adoption of Clean technologies**

-Aarti Steels Limited (Steel & Power), Ghantikhal has obtained ISO 9001: 2008 & ISO 14001:2004 & OHSAS 18001:2007 certification since October, 2009.

-We are studying the possibility of slag & fly ash transportation back to abandoned mines to fill up the cavities through empty railway wagon while they return back to the mines and its implementation.

-We would like to inform you that we have already installed slag crushing unit inside our plant premises for iron recovery from slag and after iron recovery the waste slag is being used for road making/Land filling.

- We have prepared a scheme for surface-run off rain water harvesting in consultation with Professor, IIT, Kharagpur. As per the scheme, now the rain water is routed through a series of settling pits and finally collected in 100x80x5 m size rain water harvesting

pit(**already constructed**). Water harvested from the pit shall be pumped to our raw water reservoir during the ensuing monsoon. The work of Installation of Pumps, Pipelines etc. for transporting the collected rain water to raw water reservoir for recycling is under progress and shall be completed by 15<sup>th</sup> June 2012.

-Reduction of green house gases by:

\*Reduction in power Consumption wherever possible (Installed Variable Frequency Drive in our Electric Arc Furnace for energy conservation, ASL has installed capacitor bank towards conservation of energy).

\*Separate Energy meters have already been installed for ESPs & Ash Handling System & record is being maintained for proper monitoring and control of energy consumption.

\* Separate water flow meters have already been installed in various units of our plant & record is being maintained for proper monitoring and control of water consumption.

\*Using waste gas of kiln for power generation using WHR Boiler.

\*Energy optimization technology like Energy audit conducted by Certified Energy Auditor's and some of the recommendation of are under implementation.

-Targets for resource conservation has been set.

-We are carrying out Env.monitoring & Analysis through M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar (QCI Approved & OSPCB empanelled consultant).

- Proper House Keeping with in the plant premises is being carried out. Continuous efforts are being made to improve it further. However, in order to give focused attention on improvement of House Keeping, we are observing **House Keeping Week** in all the units. Inspection for improvement in House Keeping is being ensured by our Safety, Health & Environment Sub-Committee. Dedicated team has been constituted in all the units to maintain proper house keeping.

