

**SUMMARY OF IMPLEMENTATION OF  
ACTION PLAN FOR  
IB VALLEY-JHARSUGUDA AREA (2013-14)**



**STATE POLLUTION CONTROL BOARD, ODISHA**  
**BHUBANESWAR**  
*January – 2015*

**SUMMARY OF IMPLEMENTATION OF ACTION PLAN FOR  
CPIC AREA OF IB VALLEY-JHARSUGUDA (2013-14)**

**Thermal Power Plants**

	<b>Action plan</b>	<b>Stakeholder agency</b>	<b>Current status with action plan for implementation</b>	<b>Remarks</b>
1.	All TPPs to install ESP/BF to meet the emission standard of 50 mg/m <sup>3</sup> with one spare field	Vedanta Aluminium Ltd. (CPP)	Hybrid Air Pollution Control System (APCS)- ESP and Bag filters have been installed and meeting the emission standard of 50 mg/Nm <sup>3</sup> .	Complied
		Sterlite Energy Ltd. (IPP)	Hybrid Air Pollution Control System (APCS)- ESP and Bag filters have been installed and meeting the emission standard of 50 mg/Nm <sup>3</sup> .	Complied
		Bhusan Power and Steel Ltd. (CPP)	Adequate APCEs installed/retrofitted to meet the standard. (40 MW + 60 MW +3x130 MW)	Complied
		Shyam Mettalics and Energy Ltd. CPP	Adequate APCEs installed/retrofitted to meet the standard. (10 MW + 30 MW + 30 MW)	Not complied
		Ib Thermal Power Station,ITPS, OPGC	Up-gradation of ESPs of both Unit-I and Unit-II is in progress to achieve the emission target of 50mg/Nm <sup>3</sup>	Job under progress. Up-gradation work of Unit-I will be completed by Feb, 2015 and Unit –II by Oct, 2015.
2.	All lean slurry disposal system to be converted to High Concentration Slurry Disposal (HCSD) or mine void filling	Vedanta Aluminium Ltd. (CPP)	The ash is being disposed in HCSD form.	Complied
		Sterlite Energy Ltd. (IPP)	The ash is being disposed in HCSD form.	Complied
		Bhusan Power and Steel Ltd (CPP)	Dry disposal method has been adopted by the unit. The ash is transported to designated place (industry's own premises) in a covered vehicle in moist condition.	Complied
		Shyam Mettalics and Energy Ltd CPP	Dry disposal method has been adopted by the unit.	Complied
		Ib Thermal Power Station, (OPGC)	OPGC has been strongly pursuing with MCL to get allotment of Belpahar Open Cast Mine void at an early date. Chief Secretary and Principal Secretary-cum-Energy Secretary	Not complied

			of Govt of Odisha have taken up this matter with CMD, MCL for getting an early allotment of mine void. Once the mine allotment to OPGC happens, mine void filling job will be taken up on top priority.	
		Aditya Aluminium (A unit of Hindalco Ind. Ltd.)	Total ash is supplied to M/s. Ultratech Cement Ltd. High Concentration Ash Slurry Disposal (HCSD) method is under progress.	Complied
3.	Online monitoring with real time display facility to be installed.	Vedanta Alluminium Ltd. (CPP)	Online monitoring facility installed at all the 9 boiler.	Complied
		Sterlite Energy Ltd. (IPP)	Online monitoring facility for PM, SO <sub>2</sub> , NO <sub>x</sub> has been installed at the 4 boilers all the stacks.	Complied
		Bhusan Power and Steel Ltd	Online PM & SO <sub>2</sub> , NO <sub>x</sub> monitoring facility installed in 5 stacks.	Complied
		Shyam Metallics and Energy Ltd CPP	Not yet installed.	Not complied. BG has been obtained to complete the job by 31-03-2015
		Ib Thermal Power Station, (OPGC)	Continuous online stack emission monitoring systems to monitor emission parameters SPM, SO <sub>2</sub> , NO <sub>x</sub> are operating in both the units of OPGC since the year 2005.	Complied
		Aditya Aluminium (A unit of Hindalco Ind. Ltd.)	Online monitoring stack emission monitoring system has been installed at FTP of Pot Room, Bake oven, Power plant.	Complied
4.	Create silo for a capacity of at least 2 to 3 days ash generation for its dry storage and subsequent utilization for cement and other fly ash based products	Vedanta Alluminium Ltd. (CPP)	4 Silos of capacity 1500m <sup>3</sup> each constructed. The construction work of another 4 silos of 1500m <sup>3</sup> capacity each is under progress.	Partially Complied
		Sterlite Energy Ltd. (IPP)	4 Silos of capacity 2000m <sup>3</sup> each constructed.	Not complied
		Bhusan Power and Steel Ltd)	The ash storage silos are available with storage capacity of 1500 MT and 2200 MT	Complied

			respectively.	
		Shyam Mettalics and Energy Ltd CPP	Not complied	-
		Ib Thermal Power Station, OPGC, Banaharpali, Jharsuguda	3 nos. of silos are available for ash storage. Total storage capacity is 620 MT.	Partially Complied
		Aditya Aluminium (A unit of Hindalco Ind. Ltd.)	1 no. of silo of 2500 MT capacity and 1 no. of silo of 3000 T capacity installed.	Complied
5.	Real time ambient air quality monitoring (SO <sub>x</sub> , NO <sub>x</sub> , CO, PM10, PM2.5 )	Vedanta Alluminium Ltd. (CPP)	2 nos. of CAAQM station has been installed.	BG obtained for installation of additional 2 stations by 31-03-2015
		Sterlite Energy Ltd. (IPP)	2 nos. of CAAQM station has been installed. Transmission of real time data to the server of SPCB yet to be commenced.	
		Bhusan Power and Steel Ltd	3 nos. of AAQM station has been installed at the periphery of plant boundary.	BG obtained for installation of additional 1 station by 31-03-2015
		Ib Thermal Power Station, OPGC, Banaharpali, Jharsuguda	2 nos. of CAAQM station has been installed.	BG obtained for installation of additional 2 stations by 31-03-2015
		Shyam Metaliks and Energy Ltd.	Not installed yet	BG obtained for installation of 4 nos. of CAAQMS by 31.03.2015.
		Aditya Aluminium (A unit of Hindalco Ind. Ltd.)	4 nos. of CAAQM station has been installed.	Complied
6.	All the thermal power plants shall adopt zero discharge	Vedanta Alluminium Ltd. (CPP)	Additional ETP of 600m <sup>3</sup> /hr capacity along with existing ETP of 80m <sup>3</sup> /hr capacity have been provided.	Partially Complied
		Sterlite Energy Ltd. (IPP)	Two ETP of 15 m <sup>3</sup> /hr & 25 m <sup>3</sup> /hr Capacity have been provided and treated effluent is reused.	Partially Complied
		Bhusan Power and Steel Ltd	Effluent is discharged after treatment	Not Complied
		Shyam Mettalics	Dry disposal of ash is adopted,	Partially Complied

		and Energy Ltd CPP	an effluent from other areas is discharged after settling	
		Ib Thermal Power Station, OPGC, Banaharpali, Jharsuguda	Effluent mostly recycled and a very small quantity is discharged	Partially Complied
		Aditya Aluminium (A unit of Hindalco Ind. Ltd.)	Treated effluent is recycled.	Complied

**Action Plan for Abatement of Pollution in Coal Mines**

	Action plan	Stakeholder agency	Current status with action plan for implementation	Remark
1.	A dedicated coal transport corridor to be constructed in Ib Valley coalfields to control SPM in ambient air and traffic congestion.	Mahanadi Coal Fields Ltd for operating and future coal mines in Ib Valley area and other suitable stake holder	A scheme for dedicated coal transportation has been prepared in consultation with IIT Khargapur. The scheme is under approval of Competent Authority. (i) Lajkura to Mine No.3 (3.7Km + 1 Bridge) (ii) Bundia to NH-200 (12.54Km-4 lane, 0.92Km-2lane) (iii) All coal transport road with life more than 5 years shall be concreted. Total estimated cost: 265.07Cr.	----
2.	Creation of reservoir for storage of mine drainage water and run off which can be used for industrial purpose for water conservation	MCL and Hindalco Industries Limited (Formerly INDAL)	Water reservoirs have been created in all the opencast mines of MCL and water is being used for their own industrial activities.	Complied
3.	Use of surface miner for coal mining purpose. At least 60% coal in this area to be produced by surface miner technology for control of particulate matter in ambient air.	MCL	About 83% of coal production has been done during FY 2013-14 through surface miner.	Complied
4.	Adoption of concurrent mine filling with dry ash from the thermal power plants to facilitate concurrent ash disposal.	MCL & Hindalco Industries Limited (Formerly INDAL)	Since the stripping ratios (Ore:OB) in this area is high, the mine voids is not available for filling up with fly ash generated from Thermal Power Plants, as the voids are to be backfilled by using their own overburden(OB) generated.	----

5.	Making provision for supply of drinking water in the peripheral villages of coal mining area to solve the problem of water scarcity in nearby areas.	MCL & Hindalco Industries Limited (Formerly INDAL)	(i) Potable water is supplied through tankers in all the peripheral villages of coal mining area. In 2012-13: Rs.132.75 Lakh has been spent towards water supply in Jharsuguda District. (ii) Piped water is to be supplied to three villages of Orient area. Rs.8.88Cr has been approved for water supply scheme. Fund will be deposited to District Authority.	Under implementation
6.	Enhancement of rake loading facility in the coal mines for control of SPM in ambient air and traffic congestion.	MCL	The supply of coal by Rail rakes is completely depending upon the availability of rakes. Rake loading facility is being enhanced. At present 80% of coal is supplied by rail rake.	Under implementation
7.	MCL to take up a comprehensive coal mine fire control plan for control of SO <sub>2</sub> in ambient atmosphere and heat in the area.	MCL	Fire fighting System has been implemented at strategic locations to control fire hazard.	Complied
8.	Back filling of the mine voids and restoration of the mined out area. An action plan to be prepared for control of land degradation in the area.	MCL & Hindalco Industries Limited (Formerly INDAL)	As per the guidelines issued by Ministry of Coal, Mine Closure Plans are prepared and approved by MCL Board and submitted to MoC for final approval. The mine voids are to be backfilled by using their own overburden(OB)	On-going activities

**Action Plan for abatement of Pollution in Iron & Steel and Ferro Alloys Sector**

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remark
1.	All DRI plants to install ESPs, in the kiln, bag filter in dust generating points and pneumatic dust handling system for control of air pollution in the area	Bhusan Power and Steel Ltd	Installed ESP and BFs, PDHS for ESP and BF hoppers at different strategic location to control air pollution.	Complied
		Shyam Metallics and Energy Limited	-do-	Complied
		SMC Power Generation Limited	Installed ESP and BFs, PDHS for ESP and BF hoppers at different strategic location to control air pollution.	Complied
		Concast Steel and Power Limited (Formerly SPS Sponge)	-do-	Complied
		MSP Metallics Limited	-do- (10 Nos. ESP)	Complied
		Jain Steel and Power Limited	-do- Not in operation	Complied
		Aryan Ispat and Power(P) Limited	-do-	Complied
		Viraj Steel and Energy Limited	-do-	Complied
		Action Ispat and Power (P) Limited	Installed ESP and BFs, PDHS for ESP and BF hoppers at different strategic location to control air pollution.	Complied
		Bhagawati Steel (P) Limited	Installed GCP and BFs PDHS for GCP and BFs installed.	Complied
		M/s.Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	Installed ESP and BFs, PDHS for ESP and BF hoppers at different strategic location to control air pollution.	Complied
		M/s.Maa Samaleswari Industries (P) Ltd Lapanga	Installed ESP and BFs. PDHS for ESP hoppers BF hoppers installed.	Complied
		L N Metalliks Limited	Installed ESP and BFs, PDHS for ESP and BF hoppers at different strategic location to control air pollution.	Complied
		Concast Steel and Power	Installed ESP and BFs. PDHS for ESP hoppers and BF	Complied



		Limited(Formerly Pawansut Sponge)	hoppers installed.	
		Singhal Enterprises (P) Limited	Installed ESP and BF's. PDHS for ESP hoppers BF hoppers installed.	Complied
		Jai Hanuman Udyog Limited	Installed ESP and BF's, PDHS for ESP and BF hoppers.	Complied
2.	All steel plants and sponge iron plants to develop collection and treatment facility for mineral char and coal pile run off during monsoon for control of water pollution.	Bhusan Power and Steel Ltd	Partly complied	Construction of one more WWTP is in the advanced stage of completion.
		Shyam Mettalics and Energy Limited	Partly complied	-
		SMC Power Generation Limited	Complied	-
		Concast Steel and Power Limited (Formerly SPS Sponge)	Complied	-
		MSP Metallica Limited	Complied	-
		Jain Steel and Power Limited	Complied	-
		Aryan Ispat and Power(P) Limited	Complied	-
		Viraj Steel and Energy Limited	Complied	-
		Action Ispat and Power (P) Limited	Complied	-
		Bhagawati Steel (P) Limited	Complied	-
		M/s.Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	Complied	-
		M/s.Maa Samaleswari Industries (P) Ltd Lapanga	Complied	-
		L N Mettaliks Limited	Complied	-
		Concast Steel and Power mited(Formerly Pawansut Sponge)	Complied	-
		Singhal Enterprises (P) Limited	Complied	-

		Jai Hanuman Udyog Limited	Complied	-
3.	Installation of online stack monitoring system with real time display system for 300 TPD DRI Kiln and above for monitoring and subsequent control of particulate matter	Bhusan Power and Steel Ltd	Online PM monitors have been installed in 8 DRI stacks	BG has been obtained to complete the balance job by 31-03-2015
		Shyam Mettalics and Energy Limited	Not complied	BG has been obtained to complete the balance job by 31-03-2015
		SMC Power Generation Limited	Not complied	BG has been obtained to complete the balance job by 31-03-2015
		Jain Steel and Power Limited	Not complied	Not in operation
		Aryan Ispat & Power Pvt. Ltd	Not complied	BG has been obtained to complete the balance job by 31-03-2015
		Viraj Steel and Energy Limited		BG has been obtained to complete the balance job by 31-03-2015 <b>( Plant not in operation)</b>
		Action Ispat and Power (P) Limited	Not complied	BG has been obtained to complete the balance job by 31-03-2015
		M/s.Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	Not complied	BG has been obtained to complete the balance job by 31-03-2015
4.	Real time ambient air quality monitoring with	Bhusan Power and Steel Ltd	3 nos. of AAQM installed	BG has been obtained for installation of one

300 TPD capacity and above with integration facility (SO <sub>x</sub> , NO <sub>x</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> ) for evaluation of air quality data			more online AAQMS by 31-03-2015. (Already mentioned under Power Section also)	
	Shyam Mettalics and Energy Limited	Not complied	BG has been obtained for installation of one more online AAQMS by 31-03-2015. (Already mentioned under Power Section also)	
	SMC Power Generation Limited	Not complied		
	Concast Steel and Power Limited (Formerly SPS Sponge)	Not complied	BG has been obtained to complete the job by 31-03-2015	
	MSP Metallica Limited	Not complied	BG has been obtained to complete the job by 31-03-2015	
	Jain Steel and Power Limited	Not complied	Not in operation	
	Aryan Ispat and Power(P) Limited	Not complied	BG has been obtained to complete the job by 31-03-2015	
	Viraj Steel and Energy Limited	Not complied	Not in operation	
	Action Ispat and Power (P) Limited	1 Nos of AAQMS installed	BG has been obtained for installation of three more online AAQMS by 31-03-2015.	
	M/s.Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	Not complied		
5.	Use of SMS slag	Bhusan Power and	Currently the slag is used in their	Partly Complied

	and ferro alloys slag for haul road construction in the mine area for utilization of metallurgical solid waste	Steel Ltd	own land for road making.	
		Shyam Metallics and Energy Limited	Currently the slag is used in their own land for road making.	Partly Complied
		SMC Power Generation Limited	Currently the slag is used in their own land for road making after metal recovery.	Partly Complied
		Concast Steel and Power Limited (Formerly SPS Sponge)	Currently the slag is used in their own land for road making after metal recovery.	Partly Complied
		MSP Metallics Limited	Currently the slag is used in their own land for road making after metal recovery.	Partly Complied
		Action Ispat and Power (P) Limited	Currently the slag is used in their own land for road making after metal recovery.	Partly Complied
		M/s. Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	Currently the slag is used in their own land for road making after metal recovery.	Partly Complied
6.	The char generated by DRI industries (300 TPD or more) is to be utilized in AFBC/ FBC/ CFBC boilers as supplementary fuel.	Bhusan Power and Steel Ltd	AFBC Boiler installed.	Complied
		Shyam Metallics and Energy Limited	AFBC Boiler installed.	Complied
		SMC Power Generation Limited	AFBC Boiler installed.	Complied
		Concast Steel and Power Limited (Formerly SPS Sponge)	AFBC Boiler installed.	Complied
		MSP Metallics Limited	AFBC Boiler installed.	Complied
		Jain Steel and Power Limited	Not installed	Plant is not in operation
		Viraj Steel and Energy Limited	Not installed	Plant is not in operation
		Action Ispat and Power (P) Limited	CFBC Boiler installed.	Complied
		M/s.Thakur Prasad Sao & Sons Pvt. Ltd (Formerly Eastern Steels and Power Ltd.,)	AFBC Boiler installed.	Complied

**Action Plan for abatement of pollution in Aluminium Plants**

Sl. No	Action plan	Stakeholder agency	Current status with action plan for implementation	Remark
1.	Pot line of smelter plant to be upgraded to meet the emission norm of 0.3 kg of fluoride per ton of Aluminium for control of fluoride in ambient air	Vedanat Aluminium Ltd (VAL)	Currently it is meeting the prescribed Norms of fluoride per ton of Al.	Complied
2.	Online stack emission monitoring system with display system shall be installed for evaluation of load of fluoride in ambient air.		Online monitoring facility installed at all the stack. Industry has provided real time display facility. However, the industry has connected only Unit-1 through GPRS network to the server of SPCB.	Complied
3.	Installation of fluoride removal (Fume treatment) system from bake oven plant for control of fluoride in air.		Installed	Complied
4.	Construction of secured landfill by Vedanat Aluminium Ltd (VAL) within its premises for control fluoride in water and soil		Existing Secured land fill at VAL is exhausted. Construction of 2nd SLF of 20,000T capacity is under process.	Complied
5.	Conducting a comprehensive wastewater audit for the smelter plant including runoff management.		A study on comprehensive wastewater and run-off management has been conducted for the smelter and CPP by M/s APS water industries. Report has been submitted to OSPCB.	Complied
6.	Real time ambient air quality monitoring (SO <sub>x</sub> , NO <sub>x</sub> , CO, PM <sub>10</sub> ,		1 nos. of CAAQM station has been installed. Transmission of real time data to the server of SPCB yet to be commenced.	Complied

	P.M2.5 ) for evaluation of environmental parameters by 31-032011 .			
7.	Co processing of spent potlines in cement kilns	Cement plants and VAL	At present Spent Pot Line (SPL) is disposed in Captive SLF. The unit is also discussing with M/s ACC Ltd for Co-processing of SPL in Cement Kiln.	Not Complied
8.	Vedanta Aluminium Ltd (VAL) will install defluoridation plant to prevent fluoride contamination in Bheden River	VAL	Industry has installed ETP consisting three (03) modules of 100KL/hr capacity each. ETP equipped with 50KL/hr capacity Ultra Filtration and Reverse Osmosis system to treat the waste water generated from smelter unit.	Complied

**Action Plan for abatement of pollution through Common infrastructure and services**

	<b>Action plan</b>	<b>Stakeholder agency</b>	<b>Current status with action plan for implementation</b>	<b>Remark</b>
1.	Construction of a sewage treatment plant with drainage network for Brajaraj Nagar and Jharsuguda town for control of organic pollution in river	Odisha Water Supply and Sewerage Board (OWSSB)	Orissa Water Supply and Sewerage Board is taking up the matter with Orissa Govt.	Not complied
2.	Establishment of an extensive air quality monitoring network for Ib Vally –Jharsuguda area for evaluation of air quality parameters in the area.	OSPCB, Bhusan Power & Steel, Vedanta Aluminium Ltd (VAL)	SPCB is preparing a plan for comprehensive air quality monitoring network. In principle CPCB has sanctioned one CAAQMS at Jharsuguda on dt.24.01.2014.	Not complied
3.	Construction of water storage reservoirs to collect the mine water from the underground mines for water conservation.	Water Resources Department and user agency	-.	-
4.	Construction of common disposal site facility for char and other iron and steel plant waste for scientific disposal of solid waste	Common Forum and IDCO	Since this is multi stake holder issue appropriate action will be taken up with IDCO and other stakeholders has been reported by OSPCB	Not complied
5.	Development of a municipal solid waste disposal facility for Jharsuguda town for management of MSW.	Municipality	Jharsuguda municipality will take-up the issue.	Not complied

6.	Promotion of industries within CPIC area which uses waste products like fly ash, char and waste heat for gainful utilization of solid waste		This action can be implemented after the moratorium on establishment of industries is kept in abeyance. SPCB has already stipulated rebate on consent fees for industries using the waste product as a promotional initiative.	
7	The establishment of online monitoring station for water quality monitoring of River Mahanadi and online data transmission facility with SPCB and CPCB. The parameters shall also include Fluoride, Cadmium and TOC.	Vedanata Aluminium Ltd, Bhusan Power & Steel, Tata Refectories Ltd.	-	-
8	Pb, Cr, Cd and Fluoride concentrations in Ground water is to be monitored.	MCL	-	-
9	Monitoring of PM <sub>2.5</sub> and Ozone on the points of traffic congestions should be done.	VAL, Bhusan Ltd. And MCL	-	-
10	All the STPs will be provided with a stand-by DG sets to prevent discharge of sewage during power failure	Respective stake holders like MCL, Bhusan Power & Steel, VAL etc.	Direction has already been issued by OSPCB.	-