



Office of the District Magistrate and Collector, Angul

No. 1391

Date. 30.5.2018

To

The Director
Forest and Environment Department, Govt. of Odisha
Bhubaneswar

Sub:- Submission of proceedings of District level committee on status of implementation of action plan for abatement of pollution in Angul-Talcher critically polluted area-Reg.

Sir,

With reference to the above cited subject, please find enclosed herewith the proceedings of Review meeting of the District Level committee on status of implementation of action plan for abatement of pollution in Angul-Talcher critically polluted area. This is for your kind perusal.

Encl.: As above

Yours faithfully,

Collector and District magistrate,
Angul

Memo No. 1392 Dt. 30.5.2018

✓ Copy forwarded to the Member Secretary, State Pollution Control Board, Bhubaneswar for kind information and necessary action.

Collector and District magistrate,
Angul

**PROCEEDINGS OF THE REVIEW MEETING ON IMPLEMENTATION OF CEPI ACTION FOR
ABAETMENT OF POLLUTION IN CRITICALLY POLLUTED AREA OF ANGUL- TALCHER
HELD ON DTD. 15/09/2017 AT;-10:30 A.M. IN THE CHAMBER OF COLLECTOR AND
DISTRICT MAGISTRATE, ANGUL**

The Ministry of Environment, Forest and climate Change, Govt. of India has identified Angul-Talcher, as the critically polluted area of Odisha. As advised by the Govt. of India, action plan for abatement of pollution in this area has been prepared by the State Pollution Control Board. The MoEF & CC, Govt. of India further mandates that the action plan for implementation be reviewed by the District Level Committees. The members of the District Level Committees are given as follows;

1	Collector and District Magistrate, Angul	Chairman
2	General Manager, DIC, Angul	Member
3	Deputy Director, Mines, Talcher	Member
4	Regoinal Officer, SPCB, Angul	Member Convener
5	Dr. F. K. Baral, FCI (Retired employee), Sr. Citizen	Member
6	Sri Prasan Kumar Behera, NGO	Member
7	Ms. Swapanarani Sarangi, NGO	Member

This District Level Committee has been formed to follow-up the implementation of the Action Plan as envisaged in the final report "Action Plan for abatement of Pollution in critically polluted industrial clusters of Angul-Talcher area" for the industries and mines. All the industries and mines were requested vide this office letter No.686, dtd.06.03.2017 to submit status of compliance of action plan for necessary verification by the Board. Also the industries and mines were informed by the Regional Officer, State Pollution Control Board, Odisha, Angul vide letter No.2841. dtd.05.09.2017 that a meeting will be conducted on dtd.15.09.2017 at Collectariate, Angul for review of the implementation of the Action Plan.

The review meeting chaired by Collector & District Magistrate, Angul was conducted on dtd.15.09.2017 at 10.30 A.M. in the chamber of Collector & District Magistrate, Angul. The list of the members and participants present during the meeting is annexed.

At the outset the Regional Officer, SPCB, Angul the Member of Convener welcomed all the members and participants present in the meeting. He apprised the members of district level CEPI committee about the CEPI action plan prepared for 2015-2020. The Collector-cum-Chairman of the committee presided the meeting and review the point wise compliance status of CEPI action Plan. The discussion made during the meeting is given as follows;

Action Plan for abatement of pollution in Thermal Power Plants

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
	All TPPs to install ESP and/or BF wherever technically feasible to meet the emission standard of 50 mg/Nm ³ with one spare field.	NALCO, CPP	Retrofitting of ESPs completed and commissioned for unit-1,2,3,4,5 & 6 with emission target of below 100 mg/Nm ³ . ESPs of unit no.1 to 8 are prescribed with emission standard of 100 mg / Nm ³ and ESPs of unit no.9 to 10 are prescribed with emission standard of 80 mg/ Nm ³ .	Partly complied and to be continued.
		TTPS, Talcher	The Stage-I (1, 2, 3 & 4) ESPs retrofitting is not possible due to space constraints. ESP augmentation work for Stage-II unit i.e Unit-5 is completed on July 2015 and Unit-6 completed in December 2016. Ammonia flue gas dosing is done to keep the emission below 100 mg/Nm ³ .	Partly complied and to be continued.
		Nav Bharat Ventures Ltd.	ESP of Unit-I is designed for 90 mg/Nm ³ . ESPs of Unit-II & III are designed for 50 mg/Nm ³ . To meet the emission standard in Unit-I ammonia dosing is done. The emission standard for all the units prescribed is 50 mg/Nm ³ .	Complied.
		Bhusan Energy Ltd. (IPP) and Bhusan Steel Ltd. (CPP)	ESP attached to M/s Bhusan Energy Limited have been designed for 50 mg/m ³ with all the fields in operation. CPP unit of M/s. BSL consists of one ESP of AFBC boiler (33MW), 10 ESPs of WHRBs, 02 Nos. of gas fired boilers (60 TPH & 125 TPH), 03 Nos. of ESPs for 3 boilers (3x 75TPH) of BFPP-1 and 02 Nos. of ESPs of 2 boilers (2x275 TPH) of BFPP-2. The emission standard for all the units prescribed is 50 mg/Nm ³ .	Complied.

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
		GMR Kamalanga Energy Ltd.	3 numbers of ESPs provided which are designed for 50 mg/Nm ³ will all the fields in operation. The emission standard for all the units prescribed is 50 mg/Nm ³ .	Complied.
2	All lean slurry disposal system to be converted to (High Concentration Slurry Disposal) HCSD or mine void filling subject to technical feasibility.	NALCO, CPP	Currently the ash is disposed in ash ponds in lean slurry mode for unit - 1 to 6. For unit- 7 to 10 ash is disposed in ash ponds in HCSD form. The industry is under process of installation of pipe line for transportation of ash in lean slurry mode for disposal in abandoned mine pit of Bharatpur OCP. Disposal in the mine void through HCSD mode is not technically feasible due to long distance. The project is in under progress.	Under Progress.
TTPS, Talcher		Ash is disposed in abandoned mine pit of Balanda Mine through wet disposal (lean slurry) mode. HCSD is not possible in current pipe line due to technical limitation of distance factor.	Complied.	
Nav Bharat Ventures Ltd.		Ash is disposed off through mine void filling (Balanda area) by dry ash disposal mode. Ash is transported in closed vehicle.	Complied.	
Bhusan Energy Ltd. (IPP) and Bhushan Steel Ltd. (CPP)		The unit has obtained Environmental clearance for ash transportation in HCSD mode for disposal into quarry No. 4 of Jagannath colliery of MCL. The industry is under process of laying of pipe line for ash transportation. So far the industry has laid pipeline upto distance of around 4 Km.	Under progress.	
GMR Kamalanga Energy Ltd.		The industry has HCSD system for disposal of ash in ash pond. But the industry has not obtained any mine void for ash disposal.	Not Complied.	
3	All the TPPs of 100 MW or more shall achieve Zero Liquid Discharge except during monsoon.	NALCO, CPP	The industry has installed 3 pumps of 400 m ³ /hr capacity each at IDRS (industrial Drain Recirculation System) system for recycling the treated water in ash slurry making. However Occasional discharge observed towards Gotamara village. To stop discharge towards northern boundary, the industry has constructed a rain water harvesting	Partly complied.

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
			<p>pond to collect surface run off and installed 2 Nos. of pumps of 250 m³/hr each to pump the water in fire hydrant fore bay.</p> <p>The overflow water of the ash pond is treated in PCU and is recycled back to the plant. However part of the seepage water of the ash pond is recycled and rest is discharged to Nandira Nalla, after settling of solids in a settling tank.</p>	
		TTPS, Talcher	The industry has 03 Nos. of pumps 150 m ³ /hr capacity each at Waste Water Recirculation Sump for recycling the treated water in ash slurry making	Zero discharge adopted except periodic storm discharge during monsoon
		Nav Bharat Ventures Ltd.	The treated process water is collected in a blow down pit and reused. The surface run off from process area is collected in two reservoirs from which the water is reused by a pump of capacity 137 m ³ /hr.	Zero discharge adopted except periodic storm discharge during monsoon
		Bhusan Energy Ltd. (IPP) and Bhushan Steel Ltd. (CPP)	<p>The industry has installed two ETPs (ETP-I And ETP-II) for waste water management of the plant. The treated water is reused inside the plant premises.</p> <p>However, runoff is discharged to outside of the plant premises near the coke oven area which is mixed with Lingra Nalla and the seepage water of Kacha pond (earthen lagoon) is discharged to Nandira Nalla.</p>	Partly complied.
		GMR Kamalanga Energy Ltd.	<p>To stop discharge outside, the industry has installed Rain water harvesting system & Ash water recovery/recirculation system which are in operation.</p> <p>However complete recycling of ash pond water is yet to be achieved since part of the ash pond water is discharge to Khanda Nalla.</p>	Partly complied.
	Installation of in-house Fly	NALCO, CPP	The industry has 03 Nos. of fly brick making machines having total capacity 21,000 bricks /	Complied

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
	Brick Plants and other fly ash based product plants for demonstration purpose and popularization of fly ash utilization.		Day and the industry is supplying fly ash to fly ash bricks manufacturing units.	
		TTPS, Talcher	The industry has 5 Nos. of fly ash brick making machines having total capacity 5130 bricks /hr. and the industry is supplying fly ash to fly ash bricks manufacturing units.	Complied
		Nav Bharat Ventures Ltd.	The industry has 01 Nos. of fly ash brick making machines having capacity 1, 50, 000 Nos. per month and the industry is supplying fly ash to fly ash bricks manufacturing units.	Complied
		Bhusan Energy Ltd. (IPP) and Bhushan Steel Ltd. (CPP)	The industry has 03 Nos. of fly ash brick making machines having total capacity 7400 bricks /day and the industry is supplying fly ash to fly ash bricks manufacturing units.	Complied
		GMR Kamalanga Energy Ltd.	The industry has no in-house fly ash brick making plant and the industry is supplying fly ash to the ash based brick making units.	complied

Action Plan for abatement of pollution in Aluminium Plants

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
1.	Implementation of finding of comprehensive wastewater audit including runoff management for the smelter plant.	a. NALCO Ltd. (Smelter Plant) a. NALCO Ltd. (Smelter Plant)	The auditing work was done by IIT Rourkee. After the study the industry has installed a De-fluoridation plant based on Emrion Nano Technology to treat the Fluoride contaminated waste water including surface runoff.	Complied.
2.	Utilisation of carbonaceous portion spend pot lines by Cement Kilns/ Authorised reprocesses		Nalco has started segregation of carbon portion of SPL (spent plotline) since April 2016 for use in cement plant after detoxification. Nalco has supplied 240 MT of the SPL to M/s. Green Energy Resources for trial detoxification and subsequent use in cement industry.	-

		Technical feasibility of using carbon portion of SPL in CPP is under consideration.	
3	The Aluminium Smelter either by itself or in combination with its CPP shall, achieve Zero Liquid Discharge except during monsoon months.	The surface run off of the industry is taken to 3 nos. of holding pools. From these pools the water is treated in two Nos. of De-Fluoridation plants to stop discharge of fluoride contaminated effluent to outside except during monsoon months. .	Zero liquid discharge is adopted except periodic storm discharge during monsoon.
4	Co-incineration of Spent pot linings (SPLs) in CPPs of Aluminium Smelters subject to technical feasibility.	Technical feasibility of using carbon portion of SPL in CPP is under consideration.	-
5	Study of Recycle / recovery / Reuse and waste minimization potential of hazardous waste in aluminum smelter.	The industry is generating 27 types of hazardous waste and 09 types waste are reused.	

Action Plan for abatement of pollution in Iron & Steel Sector

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
1.	All steel plants and sponge iron plants to develop collection and treatment facility for runoff from char dumps and coal stock piles	Bhushan Steel Ltd	The industry has provided two nos. of ETPs (ETP-I & ETP-II). The surface run off of raw material handling yard including coal stock piles area is collected in settling pit and further treated in ETPs. However the industry has not provided collection and treatment facility for runoff around the	Collection and treatment facility for runoff around the dolo char dump yard needs to be provided.

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
	during monsoon.		dolo char dump yard.	
		BRG Iron & Steel	The earthen garland drain provided earlier has been silted.	Not complied.
2	Use of SMS slag and ferro alloys slag for haul road construction in the plant premises and surrounding areas.	Bhushan Steel Ltd	SMS slag is being used in road construction and floor making inside the plant.	Complied.
		BRG Iron & Steel	The slag is stored inside the plant premises and used in the road making.	Complied.
		Nav Bharat Ventures Ltd.	The Ferro chrome slag is using in the road construction, civil construction and filling of low lying area and the granulated slag fines are used for the manufacturing of fly ash brick.	Complied.
		Mangilal Rungta	The plant is not in operation	-
		Hind Metals and Industries Pvt. Ltd	The plant is not in operation	-
3	The DRI industries having AFBC Boilers is to utilize 30% of Dolo-Char as a supplementary fuel in AFBC Boilers.	Bhushan Steel Ltd	At present generally two nos. of DRI units are operated out of 10 nos. and AFBC boiler is not in operation since September 2015.	-
		BRG Iron & Steel	The industry has no AFBC boiler.	-
4	The dead dumps shall be biologically reclaimed and rehabilitated in such a manner so as to make it gainfully utilized for other purpose.	Bhushan Steel Ltd	The industry has stabilized the fly ash dump site at Sibapur and dump site Near NH-55. But it has not stabilized the dolo char dump site located at Sibapur.	Partly complied.
		BRG Iron & Steel	The dead dumps are not fully stabilized.	Partly complied.
		Nav Bharat Ventures Ltd.	The industry has no dead dumps.	-
		Mangilal Rungta	The plant is not in operation	-

Sl. No.	Action plan	Stakeholder agency	Current status with action plan for implementation	Remarks
		Hind Metals and Industries Pvt. Ltd	The plant is not in operation.	-
5	Treatment and subsequent utilization of phenol and cyanide bearing effluent from recovery type coke ovens / coal gasification plants	Bhushan Steel Ltd	The industry has provided two nos. of BOD plants for its two coke oven units and the treated water is used for coke quenching.	Complied

Action Plan for abatement of pollution in Coal Mines.

Sl. No.	Action Plan	Current status with action plan for implementation
1.	Dedicated new coal transport corridor is to be constructed avoiding populated areas, institutions, schools etc. in Talcher Coalfields.	Dedicated new coal transport corridor (earthen) has already been developed and coal transportation started on the road from 15.12.2016. However, concreting/ blacktopping of the road have not yet been started.
2.	Adoption of mine void filling with dry ash from the thermal power plants.	As intimated by the mines representatives, for filling of mine void with ash 1. Bharatpur OCP mine void of 13.30 Million Cum capacity has been allotted to M/s. NALCO (yet to be started). 2. Jagannath OCP mine void of total 45.21 million Cum capacity has been allotted to M/s. TSTPS, Kaniha, and M/s. Bhushan steel limited and about 0.558 million Cum of ash was filled by M/s. Bhushan steel limited and filling of ash are yet to be started by M/s TSTPS, Kaniha and TTPS, Talcher. 3. Balanda OCP mine void of 15.63 Million cum capacity was allotted to M/s. TTPS, Talcher and M/s. Nava Bharat Ventures Limited for mine void filling out of which 14.05 Million Cum void has been filled.
3.	Enhancement of rake loading facility in the coal mines.	There are total 12 nos. of Railway sidings in Talcher Coalfield. The total coal off-take by rail during the month of May'17, June'17 and July'17 was 69.95%, 73.90% and 80.85%, as information submitted by MCL, Burla.
4.	Monitoring of ground water	Monitoring of ground water is being done quarterly by

	quality inclusive of Pb, Cr, Cd and Fluoride concentrations.	CMPDI and the reports are submitted to SPCB.
5.	Monitoring of PM _{2.5} and Ozone at traffic intersections.	Monitoring of PM _{2.5} and Ozone is being done at Dera Square.
6.	All the STPs will be provided with a standby DG sets to prevent discharge of sewage during power failure.	STP were provided by Ananta OCP, Bharatpur OCP, Balaram OCP and Jagannath OCP. However no standby DG sets have been provided.
7.	All Opencast coal Mines either individually or in combination shall achieve Zero Liquid Discharge	All the mines have attempted to achieve the compliances of zero discharge system suggested by NIT Rourkela and it has been verified by officials of Regional Office, SPCB, Angul from time to time and no discharge was observed to outside the M.L. Area.
8.	Enhancement of number of population covered under provision for supply of drinking water in the peripheral villages of coal mining area.	As per the information provided by mines representatives, it follows as follows:- <ol style="list-style-type: none"> 1. Piped water supply is being provided for 19 peripheral villages of coal mining area. 2. Piped water supply for additional 35 villages is under implementation by RWSS. 3. Proposal for water supply to 40 nos. of villages has been approved by MCL Board. 4. Water supply by mobile water tankers was also taken up every year.
9.	implementation of comprehensive coal mine fire control plan by MCL.	Coal Seam fire are rare, however to deal with the coal seam fire 28 KL water tankers & fire tenders have been provided and whenever necessary quenching is done to remove heated coal. The quantity at coal stocks is reduced in every month and to deal any occurrence of fire at coal stocks, water pipeline with hoses & nozzles and 28 KL water tankers & fire tenders have been provided.
10.	Increase in concurrent back filling of the mine voids and restoration of the mined out area for technical and biological reclamation of mined out area.	As per information provided by mines representatives, as on July 2017, the de-coaled area is 2034.996 Ha, de-coaled area already backfilled is 1378.006 Ha and area technically and biologically reclaimed is 502.14 Ha.
11.	Construction of ground water recharge pits in coal mines area.	The ground water recharge pits have been constructed near BCML Workshop and near sedimentation tank of Bhubaneswari OCP.
12.	Installation of closed conveying systems for transport of coal from pit head to railway siding.	<ol style="list-style-type: none"> 1. Closed conveying systems for transport of coal is existing from Jagannath Mine to TTPS and Bharatpur CHP to RLS for supply to NALCO. 2. Construction of closed conveying system for transport of coal from Bharatpur pit top to new siding is in advanced stage of completion. 3. Closed conveying system for transport of coal from Lingaraj pit top to siding is under construction.
13.	Epidemiological Study for Assessment of Effect of Pollutants on Human Health	Periodic medical examination by MCL is conducted at five year interval for all employees of MCL and health camps are organized on regular basis in the peripheral villages.

	in Critically Polluted Areas (Angul-Talcher and Ib Valley-Jharsuguda) in Odisha	Epidemiological Study for Assessment of Effect of Pollutants on Human Health in Critically Polluted Areas has been initiated at Head Office, SPCB, Bhubaneswar.
14.	Development of Geo-database for Environmental Mapping and Web based GIS application in Critically Polluted Areas (CPAs) in Odisha.	Field data acquisition and assimilation has been done by SPCB officials and engaging third party, M/s. Spatial Planning and Analysis Research Centre Pvt. Ltd. (SPARC) for Development of Geo-database for Environmental Mapping and Web based GIS application in Critically Polluted Areas (CPAs).
15.	Land use and land cover Study in CPA.	Land use and land cover Study has been included in the Heat Island Study conducted in the Angul-Talcher area by IIT, Delhi.
16.	Improve plantation raised by industries and mines in CPA.	The details of plantation in Talcher coalfield is given as follows: Year 2015-16: 1,14,699 nos. Year 2016-17: 1,15,830 nos in mining area + 10000 nos in urban area. Year 2017-18: 60,475 nos in mining area + 20,000 nos in urban area through DFO.
17.	Source Apportionment study in CPA.	Source Apportionment Study in CPA was conducted in Bhubaneswari OCP and was submitted to SPCB.

Action plant for abatement of pollution through Common infrastructure services and studies.

Sl.No.	Action Plan	Issues being addressed
1.	Construction of sewage treatment plant for Talcher town	Construction of 2 MLD STP for treatment of sewage of Talcher Town has been completed and it is under commissioning.
2.	Establishment of an extensive air quality monitoring network for Angul-Talcher area.	<ol style="list-style-type: none"> 1. The SPCB, Odisha is monitoring AAQ in CPIC area at 4 Locations under NAMP and SAMP programme on a continuous basis. 2. Besides for evaluation of CEPI Score, CPCB is monitoring AAQ at 8 locations engaging third party NABL accredited Laboratory. 3. Regional office, SPCB, Angul has also conducted AAQ at 9 locations of Angul-Talcher CPA area. 4. One Continuous Ambient Air Quality Monitoring Station has been installed at Dera, Talcher under SPCB/ CPCB Collaboration Project and it is in operation.
3.	Construction of water impoundment structures in Nandira, Lingra, Singda and Bangur Nallah.	The WR Department has constructed water impoundment structures for water conservation and irrigation purpose.
4.	Remediation of contaminated	M/s ORICHEM has shifted about 5000 T hazardous

	site near ORICHEM Ltd.	waste to TSD, Sukhinda. The detail project report (DPR) for the reference project, titled as "Design of Remediation Plan and Submission of DPR along with Technical Documents and Detailed Specifications" by M/s. ERM India Private Limited has been submitted to Head Office, SPCB, Odisha.
5.	Promotion of industries in CPA which uses waste products like fly ash, char and waste heat.	To increase the utilisation of flyash in Angul-Talcher area a fly ash park has been proposed to setup at Talamul, Banarpal. The land acquisition by IDCO is under progress.
6.	The establishment of on-line monitoring station for water quality monitoring of River Brahmani and online data transmission facility with SPCB and CPCB.	M/s. Bhushan Steel Ltd. and M/s. MCL have installed on-line monitoring station for water quality monitoring of River Brahmani at Kurunti and at Talcher respectively.
7.	Monitoring of ground water quality inclusive of Pb, Cr, Cd and Fluoride concentrations.	The S.P.C.Board monitors the Pb, Cr, Cd twice in a year at 8 locations of Angul-Talcher area and also monitors Fluoride every month at 13 locations in and around M/s. Nalco Ltd. (Smelter Plant), Angul.
8.	Monitoring of $PM_{2.5}$ and Ozone at traffic intersections.	Regional office, SPCB, Angul has conducted $PM_{2.5}$ at CHC, Banarpal near traffic intersections point Banarpal of Angul-Talcher area.
9.	Epidemiological Study for Assessment of Effect of Pollutants on Human Health in Critically Polluted Areas (Angul-Talcher and Ib Valley-Jharsuguda) in Odisha.	Epidemiological Study for Assessment of Effect of Pollutants on Human Health in Critically Polluted Areas has been initiated at Head Office, SPCB, Bhubaneswar.
10.	Development of Geo-database for Environmental Mapping and Web based GIS application in Critically Polluted Areas (CPAs) in Odisha.	Field data acquisition and assimilation has been done by SPCB officials and engaging third party, M/s. Spatial Planning and Analysis Research Centre Pvt. Ltd. (SPARC) for Development of Geo-database for Environmental Mapping and Web based GIS application in Critically Polluted Areas (CPAs).
11.	Land use and land cover Study in CPA.	Land use and land cover Study has been included in the Heat Island Study conducted in the Angul-Talcher area by IIT, Delhi.
12.	Improve plantation raised by industries and mines in CPA.	The S.P.C.Board has issued letter to industries mines to increase plantation in Angul-Talcher area.
13.	Source Apportionment study in CPA.	Source Apportionment study has been conducted by MCL in Talcher area.

The present status on the implementation of CEPI action plan is under progress and it will be reviewed by the District Level Committee from time to time.

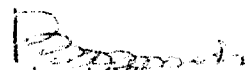
The meeting ended with vote of thanks to the Chair and the participants.



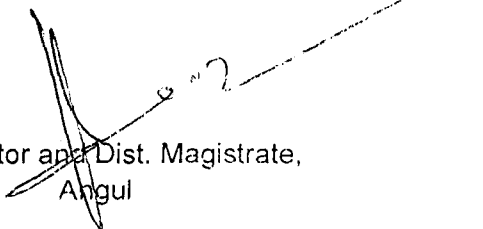
Deputy Director,
Mines, Talcher, Angul



General Manager,
DIC, Angul



Regional Officer,
SPCB, Angul



Collector and Dist. Magistrate,
Angul