

SPEED POST



WEST BENGAL POLLUTION CONTROL BOARD

(Department of Environment, Govt. of West Bengal)

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Memorandum No. 199 -4A-11/2010-PART-I

Date : 16.02.2016

To
The Member Secretary
Central Pollution Control Board,
Parivesh Bhawan, CBD-cum-Office Complex,
East Arjun Nagar, New Delhi – 110 032.

Sub: Quarterly report on implementation of action plan for Critically Polluted Areas in West Bengal.

Ref: Office Memorandum of MoEF vide No. J-11013/5/2010-IA-II (I) dated 17.09.2013.

Sir,

In reference to the above subject, enclosed please find herewith the report on implementation of action plan for the following critically polluted areas in West Bengal as on 31st December, 2015 :

1. Haldia
2. Asansol
3. Howrah

This is for your information and necessary action.

Yours faithfully,

(Dr. Subrat Mukherjee, IFS)

Member Secretary, West Bengal Pollution Control Board

Encl. As stated above.

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Summary of short term action points:

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
1.	<p>On-main charging system with high pressure liquor aspiration (HPLA) in Coke oven battery nos. 10</p> <p>Zero leakage door & hydrojet cleaner</p> <p>Screw feeder charging system and water sealed AP Caps</p> <p>Rectification in oven doors, leads in Coke oven Battery no. 8&9.</p>	M/s. IISCO Steel plant , SAIL., Burnpur	<ul style="list-style-type: none"> • HPLA and on-main charging Implemented along with rebuilding of coke oven battery no. 10. • Zero leakage door, hydro-jet cleaner, screw feeder, water seal AP installed at coke oven battery no. 10. • Cold repair for Coke Oven battery No. 8 has been completed and initial heating is in progress. • Coke oven battery No. 9 is closed since 31.03.2014. 	<p>Complied</p> <p>Complied</p>	<p>Implemented</p> <p>Implemented</p> <p>Operations of Coke Oven battery No. 9 has been stopped</p>

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
2.	Installation of a three stage BOD Plant at Coke Oven (For Battery no. 8,9,10) is completed . Separate BOD plant for Battery no. 11 will be installed and existing BOD plants (8&9) will be phased out.	M/s.IISCO Steel plant ,SAIL.Burnpur	<ul style="list-style-type: none"> BOD Plant commissioned in June, 2010 for treatment of effluent generated from No. 8, 9 & 10 Coke Oven batteries. Old BOD plants for 8 & 9 phased out in June, 2010. Mechanised NaOCl dosing facility installed at the outlet of BOD plant to control cyanide. BOD Plant of Coke Oven battery No.11 is under operation. 	Complied	Implemented
3.	Blast furnace no.5 (Under installation) to have following facilities : Coal dust injection , top pressure recovery turbine , Cast house dedusting facility and on line siag granulation Pulverized coal injection system, oxygen enrichment and BF flue dust granulation to be installed in BF – 2 & 3.	M/s.IISCO Steel plant ,SAIL.Burnpur	<ul style="list-style-type: none"> Blast Furnace No. 5 is under trial operation with CDI, TRT installation is in progress. Cast house dedusting facility and online slag granulation has been implemented. BF no. 3 is phased out on 16th March, 2012. 	Complied BF no. 3 phased out	Implemented BF no. 2 has been closed since April , 2015

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
4.	Unit to install following facilities at new BOF in modernization plant e.g. Stage wise Ventury scrubber for gas cleaning station, De-dusting facility with ESP for dog house, On line stack monitoring facility. Existing Twin hearth furnaces (2x110 TPD) will be phased out.	M/s.IISCO Steel plant ,SAIL.Burnpur	<ul style="list-style-type: none"> Out of 3 converter 2 nos have been installed and commissioned with common ESP. Another converter and ESP is under construction. BOF shop is under hot trial run with ventury scrubber, gas cleaning plant and dog house, online stack monitoring. Both the old THF has been phased out since 01.04.2014 	Complied Both the THF phased out.	BOF shop is under hot trial run. Both the THF phased out.
5	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Majumdar Industries	The unit has discontinued the operation of coal fired slag drier.		The unit is complying with the emission norms
6	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Mansarovar Cement	The unit has discontinued the operation of coal fired slag drier.	---	The unit is complying with the emission norms
7	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is	M/s Calcutta Cement	Coal fired slag drier equipped with air pollution control system and stack.		The unit is complying with the emission norms

Implementation & monitoring of Action plans for Asansol area as on December, 2015

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	available within accessible distance).				
8	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Hanuman Cement	Coal fired slag drier equipped with air pollution control system and stack.		The unit has switched over from cement grinding unit to quartz grinding unit with additional Air Pollution Control Systems.
9	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Omni Cement	Coal fired slag drier equipped with air pollution control system and stack.		The unit is complying with the emission norms
10	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Ambey Super Cement	The unit has dismantled the coal fired slag drier.		The unit is complying with the emission norms.
11	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Kalika Cement	The unit has dismantled the Slag drier.		The unit is complying with the emission norms.

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
	available within accessible distance).				
12	Coal fired slag drier should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s A.T.C International (P) Ltd.	Coal fired slag drier equipped with air pollution control system and stack.		The unit has suspended the activity of the plant Since 20.08.2013
13	Coal fired boilers should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s United Spirits Ltd.	The unit has dismantled the coal fired Boiler. The industry already implemented necessary upgradation of ETP for meeting effluent standard.		Value of parameters of effluents sampling were found to be within limits.
14	Refractory manufacturing units should switch over to new generation producer gas fired Shuttle kiln, Tunnel Kiln or Push-bat kiln which are much more fuel efficient kiln for environment friendly smoother operation, improvement in quality of the product.	M/s Asansol Ceramics & M/s Burnpur Ceramics	M/s. Burnpur Ceramics is operating chamber Kilns only using petroleum coke procured mainly from Gujarat. Operation of existing down draft kiln suspended.		M/s. Asansol Ceramics has been closed since last two & half years.

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
15	Coal fired boilers should be converted to Oil/Gas fired drier (Preferably with CBM which is available within accessible distance).	M/s Sree Ganesh Silicate & Soda.	Coal fired Boiler has been dismantled.		The unit is closed down permanently.
16	Husk fired boilers should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	S.G Pulp & Paper (P) Ltd.	Husk fired boiler equipped with air pollution control system and meeting with the emission norms.		The unit has closed its operation.
17	Coal fired boilers should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Vamshi Chemicals	The unit is presently closed.		The unit remained closed since last 3 years.
18	Coal fired boilers should be converted to Oil/Gas fired drier. (Preferably with CBM which is available within accessible distance).	M/s Vedant Retreads	The unit is using CBM fired boiler for various process.	Complied	Implemented
19	This unit should install producer gas based regenerative furnace which is less polluting and will enhance fuel efficiency.	M/s National Glass Works	Producer gas based regenerative furnace already installed and in operation.	Complied	Implemented

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Long Term Action Points :

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
1.	<p>1. Dedicated coal transport corridor to be constructed.</p> <p>2. Enhancement of loading & unloading facility with proper dust suppression facility.</p> <p>3. Use of surface miner as much as possible.</p> <p>4. Trapping of Methane from underground mines prior mining. To be completed by December 2012</p>	<p>1. M/s Bejdih Colliery, 2. M/s Dhemomain Colliery, 3. M/s Methani Colliery, 4. M/s Narsamuda Colliery, 5. M/s Patmohona Colliery under E.C.L</p>	<ul style="list-style-type: none"> • Dedicated coal transport corridor is constructed for coal transportation. The transport road is black top road. • To reduce the pollution impact water sprinkler is used to suppress the dust. • Trucks are covered with tarpaulin cover. • Plantation is done in buffer zone and road side. 20000 saplings are planted in this financial year. The saplings are maintained by third party. • The mines which are mentioned in the table, are underground mine. Use of surface miner is not applicable for UG mines. • The mines are located within Ranigunj coal field area in West Bengal. M/s Great Eastern Energy Corporation Pvt. Ltd. already started activities for extraction of coal bed methane in the Ranigunj Coal Field area. 	Mostly Complied	These Coal mines are identified under Cluster 6 for which TOR has been issued by MoEF, GoI for conducting EIA study. Public Hearing for expansion of these mines has been conducted on 29.11.2013.

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
2.	Area wise common reservoir for storage of mine drainage water, storm water and to provide necessary treatment facility prior discharge.		<ul style="list-style-type: none"> Two nos. of reservoirs with capacity of 20 lakh gallons are being used for five mines. This stored water is used for water sprinkling and domestic purpose for residential colony after treatment. 	Complied	Implemented
3.	Backfilling of mine voids with overburden. Utilisation of ash from thermal power plants to be adopted for mine filling. Pond ash to be utilized along with sand for stowing underground mines.		<ul style="list-style-type: none"> The mines are UG mines, so back filling is not applicable in this case. Use of flyash for stowing the UG mines is not possible. Technically, this practise is not feasible. 		
4.	To intimate surrounding locality about blasting well in advance and to adopt best practices. Noise generation to be		<ul style="list-style-type: none"> In case of UG mines quantum of explosive used for blasting is very less to cause any damage at surface. Utmost care is taken in blasting design to have less effect at the surface. Best available practices are followed 	Mostly complied	Awareness program conducted in the locality time to time.

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
	minimized from heavy earth moving machines, drilling etc.				
5.	S.T.P.at Kalipahari	Asansol Municipal Corporation jointly with MH & PE, Gol	<ul style="list-style-type: none"> STP of 12 MLD capacity is constructed under Ganga Action Plan (GAP-II). 	Complied	Implemented
6.	2 Nos. of STPs (21 MLD & 29 MLD with associated Sewage Network)	ADDA jointly with MH & PE, Gol	<ul style="list-style-type: none"> Proposal is prepared and sent for approval. 	Action initiated for compliance	
7.	Municipal Solid waste management for Asansol	ADDA jointly with MH & PE, Gol	<ul style="list-style-type: none"> At Kalipahari area land selection process is going on. Location has been identified for MSW management. At present the site is not being used due to obstruction from the local people nearby. 	Action initiated for compliance	At present, the MSW is being disposed in the existing site in Asansol & Burnpur. The Plant at Raniganj has been non-operation due to legal dispute.
8.	South City Road (From G.T. Road to Proposed Bridge over Damodar River-12.2 K.M.)	ADDA jointly with MH & PE, Gol	<ul style="list-style-type: none"> Action has been initiated for preliminary survey work. The issues also taken up with Railway Authority as some portion of the land belongs o Railways. 	Under consideration	Project dropped.
9.	Road from Jubilee Dhaba	ADDA jointly with MH &	<ul style="list-style-type: none"> Road expansion work under progress. 	Under	The work is

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Sl no.	Action points (Including source & mitigation measures)	Responsible stake holders	Status as on December, 2015	Compliance status	Remarks
	to Scope Gate of IISCO-4.604 K.M.	PE, Gol	The work is nearly on completion.	compliance	nearly on completion .
10.	Expansion of G.T.Road (Ashram more to Chelidanga)	Asansol Municipal Corporation jointly with MH & PE, Gol	<ul style="list-style-type: none"> • ADDA is the nodal agency for this project and it is under active consideration 	Yet to comply	Now PWD is going to take up the construction activity.
11.	7.4 KM Road from IISCO to NH-2	IISCO	Already constructed	Complied	Implemented
12.	Road Bridge over Damodar from Burnpur to Madhukunda	IISCO	<ul style="list-style-type: none"> • The construction of the bridge is linked to the construction of South City road. 	Yet to comply	
13.	S.T.P. at IISCO Township	IISCO	<ul style="list-style-type: none"> • The construction work of STP is under progress. 	Under compliance	Expected to be completed by December'2015.
14.	S.T.P.at Shristinagar	Bengal Shristi Infrastructure	<ul style="list-style-type: none"> • STP in operation. 	Complied	Implemented

Implementation & monitoring of Action plans for Asansol area as on December, 2015

Summary of Compliance Status:

During assessment of the progress made in implementation of Action Plans and subsequent improvement in the environmental condition of Asansol area, following points have been noticed:

- The implementations of Short Term Action Plans by the individual industries are either completed or nearing the stage of completion.
- For Long Term Action Plan, progress of implementation is satisfactory.
- Continuous efforts initiated by WBPCB for implementation of Pollution Abatement Action Plans for up-gradation of environmental quality in this industrial area shows decreasing trend in current CEPI score (56.01) as compared to CEPI score (70.20) during 2010, both calculated by CPCB (available in the website of CPCB). These efforts will be continued in future for further improvement of environmental quality and a lower CEPI.

Status of Implementation of Action plans for Haldia area as on December 2015

Short Term Action points

M/s. Indian Oil Corporation Ltd. - Haldia Refinery

Action Points	Status as on December, 2015	Compliance Status	Remarks
<p>Continuous on-line monitoring system for all relevant stacks to be installed. The data generated will be transferred to CPCB through SPCB.</p> <p>Currently VOC monitoring in IOC and the adjacent area through VOC meter.</p> <p>This program will be further augmented by commissioning one additional Continuous Ambient Air Quality Monitoring System.</p>	<ul style="list-style-type: none"> Continuous on-line monitoring system has been provided for all relevant stacks Additional 02 nos. VOC monitoring meters installed & in service. Presently, monitoring carried out for about 8,000 points covering the entire Refinery. Reports are generated quarterly. Existing continuous Ambient Air Quality Monitoring System is connected with CPCB server for online data transfer. Setting up of another AAQMS is planned along with the forthcoming DCU project for which EC & NOC have already been obtained by the Refinery. 	Complied	<p>Operating satisfactorily</p> <p>In regular operation</p>
Two more High Volume Samplers to be installed in Township	<ul style="list-style-type: none"> Installed and in operation since March,2011 	Complied	In regular operation
A part of FO may be replaced by low-Sulphur fuel gas.	<ul style="list-style-type: none"> Major part of the FO is replaced by low Sulphur Naphtha firing in the GT for better performance of the refinery. Fuel gas generated from refinery process is consumed by the refinery after de-sulphurisation. Off gases are also de-sulphurised and reused. 	Complied	Implemented

Status of Implementation of Action plans for Haldia area as on December 2015

Action Points	Status as on December, 2015	Compliance Status	Remarks
On-line stack monitoring system to be installed for the incinerator stack.	<ul style="list-style-type: none"> The incinerator at Haldia Refinery has been kept idle since May, 2011. 	Incinerator not in operation	At present Disposal of sludge done through CHWTSDF at Haldia
Out of 900 m stretch of Green Belt Canal (GBC) previously earmarked, 500 m has been de-silted, the rest portion i.e. 400m to be de-silted and to be bio-remediated, if possible	The unit has constructed a guard pond and redeploying two nos. of 35000 KL tanks to arrest slippage of oily water from the refinery premises to GBC. Carrying capacity of the Canal (GBC) is no more utilized by the Refinery. De-silting of around 500 M stretches was carried out in FY'2008-09 and next 400 M de-silting was carried out in FY' 2013-14. Another 2.5 KM stretch of Green belt Canal (up to Refinery Gate) desilting job has already been started in 2014 and is on the verge of completion.	Complied	Action taken to arrest discharge of oily water. Work for de-silting of 900 m completed. Desilting job for another 2.5 km stretch of Green belt Canal has already been started.
High emissivity ceramic coating to be applied in crude distillation section of unit no. 2	<ul style="list-style-type: none"> Complied as on March, 2011. 	Complied	Performance satisfactory.

M/s. Haldia Petrochemicals Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Nitrogen blanketing in Internal Floating Roof Tank with installation of Pressure Control Valve to arrest venting of hydrocarbon vapour.	<ul style="list-style-type: none"> Implemented. Benzene transport by ships is an additional action taken by the industry. 	Complied	Performance satisfactory.

Action Points	Status as on December, 2015	Compliance Status	Remarks
Program for reusing the treated water for various plant purposes like gardening, maintaining green belt, road washing, etc., in order to reduce total water consumption.	<ul style="list-style-type: none"> Treated waste water is used for gardening, road washing and partially discharged. 	Complied	Implemented
Usage of metallic gaskets in all pressurized hydrocarbon pipeline/flange/pump joints	<ul style="list-style-type: none"> Already Achieved 	Complied	Complied satisfactorily
Connection of all PSVs/TSVs to 120 m high Flare Stack	<ul style="list-style-type: none"> Already Achieved 	Complied	In regular operation
Benzene Recovery Unit for collection of benzene vapors during loading	<ul style="list-style-type: none"> Already installed and in operation 	Complied	Implemented

Note: Plant was kept under shut down from 06.07.2014 due to financial crisis and operation resumed in January 2015.

M/s. MCCPTA India Corporation Pvt. Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Monitoring system & off-gas burning system for VOC reduction for the old plant to be completed	<p>Monitoring of fugitive emission is being done on regular basis. Regular LDAR monitoring is being done for old plant.</p> <p>Off gas burning unit is already installed in the new plant. The operation of new plant is yet to achieve stabilisation at 100% of rated capacity. So the efficiency operability of the already installed off gas burning unit at peak rate of the plant operation could not be judged. Subsequently, on the basis of the performance of OGBU in the new unit, similar OGBU to be installed for old plant.</p>	Mostly Complied	---
Program for reusing the treated water for various plant purposes like gardening, maintaining green belt, road washing, etc., in order to reduce total water consumption.	Wastewater discharge reduced. Reduced water demand by 1.9% and waste water discharge to river by 5%.	Complied.	Implemented

Action Points	Status as on December, 2015	Compliance Status	Remarks
Will set up AAQ monitoring station.	On-line ambient air quality monitoring station including VOC monitoring station is in operation.	Complied	In regular operation

M/s. Dhunseri Petrochem & Tea Ltd. (formerly M/s. South Asian Petrochemicals Ltd.)-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line monitoring systems with real time reading to be installed for the stack connected to TFHs.	<ul style="list-style-type: none"> Oniine monitoring system installed for TFH and also for CPP boiler. 	Complied	Operating satisfactorily
Leak Detection & Repair (LDAR) program along with installation of gas sensors to be explored.	<ul style="list-style-type: none"> Working satisfactorily For conveying part total conveying system is under N2 blanketing. For any leakage it comes to know immediately through DCS system. Besides the industry carry out Helium leak detection test for various reactors before plant start up. 	Complied	Various LDAR programs are being carried out on regular basis.
Will set up AAQ monitoring station.	<ul style="list-style-type: none"> Automatic air quality monitoring stations has been installed and under commissioning stage. 	Complied	In regular operation
Program for reusing the treated water for various plant purposes like gardening, maintaining green belt, road washing, etc., in order to reduce total water consumption.	<ul style="list-style-type: none"> Waste water discharge reduced. ETP treated water is being used for gardening purpose Now treated water/ RO reject water is used for dust suppression in road and as well as coal handling area. 	Complied	Initiative taken to reduce water demand and effluent load to the recipient water body. Air Cooled Condenser based 10 MW Captive Power Plant installed to reduce water consumption and now it is under operation.
Steam stripping of effluent to reduce effluent load	<ul style="list-style-type: none"> Complied 	Complied in new plant	In regular operation

Action Points	Status as on December, 2015	Compliance Status	Remarks
On-line stack monitoring of Coal Heater	<ul style="list-style-type: none"> Implemented 	Complied	In regular operation

M/s. Electrosteel Castings Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Another 7 nos. DFS to be installed in different locations	Installed at different locations	Complied	Operating satisfactorily
Off-line bag filter for Product House is under progress and expected to be completed	Installation completed	Complied	Operating satisfactorily
Total unpaved road to be concreted	Entire unpaved road has been concreted.	Complied	Implemented
More green belt to be developed	New plantation program in progress	Approximately 31000 saplings have been planted with 3 tier covering along the periphery of the industry.	Progress is satisfactory
Will install automatic AAQ monitoring station with real-time reading.	Installation of AAQ monitoring system completed	Complied AAQ monitoring is being done on every month	---
Continuous on-line stack monitoring systems to be installed for the stacks connected to the rotary kilns & the coke ovens.	Installed four opacity meters in four combustion stacks.	Complied	Operating satisfactorily
Will install monitoring system for Benzo (a) pyrene.	Monitoring system for Benzo(a)pyrene has been installed at three different locations	Complied	In regular operation

Status of Implementation of Action plans for Haldia area as on December 2015

M/s Exide Industries Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Minimization of water consumption to be explored through reuse of water.	<ul style="list-style-type: none"> • Re-use of RO reject water in ETP for lime mixing • Re-use of ETP treated water in vacuum pump for cooling purpose instead of raw water • Recycle of cooling water through Cooling Tower • Use of RO reject and lagoon discharge for shop floor & road wash, toilet flush • Use of RO reject as make-up water in Jar formation / charging cooling system • STP – treated water in gardening purpose • Installation of push type valves in Toilets • Rainwater harvesting in Canteen and PE building area 	Complied.	The raw water consumption per MT of lead used has further come down from 10.5 KL in FY 2009- 10 to approx. 4.08 KL in FY 2014-15 (till December 2014)
Use of NaOH in place of lime in the ETP to be explored for minimization of sludge generation.	<p>The focus area is to reduce the effluent generation through methods like -</p> <ul style="list-style-type: none"> • Installation of Acid Recovery System in Industrial Factory • Installation of Wash Water Recovery System in Industrial Factory • Reuse of positive plate wash water • Installation of RO system before DM Plant • Enhancement of ETP efficiency by • Use of Sand filter Bed after clarifier in ETP • Installation of Automatic Lime dosing in Traction ETP • Use of higher active content in neutralizing agent • Dosing of additives to enhance efficiency • Use of dryer before disposal of waste, which is sent to authorized hazardous waste management organization. 	Partially Complied	ETP sludge generation per MT of lead has been reduced from 78.9 Kg in FY 2009- 10 to approx. 59.1 Kg in FY 2014- 15 (till December 2014)

Status of Implementation of Action plans for Haldia area as on December 2015

M/s Shree Renuka Sugars Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line stack monitoring system to be installed for the stack connected to the 90 TPH pulverized coal-fired boiler.	<ul style="list-style-type: none"> Complied 	Continuous online stack monitoring system is installed with boiler.	Implemented
Continuous effort to be made to minimize spillage & leakage from the process to reduce effluent generation	<ul style="list-style-type: none"> All inside drains are blocked to avoid spillages of raw sugar in storm water drain 	Treated effluent is sent to the Green Belt Canal through pipeline	
Necessary steps for abatement of odour arising out of spillage of raw sugar during transportation/ unloading to be taken	<ul style="list-style-type: none"> The industry is continuously maintaining the various steps adopted for controlling spillage of raw sugar. 	Complied	Implemented

M/s Ennore Coke Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
The unit has already installed 2 WHRBs for 2 (out of 3) coke ovens. It will provide WHRB for the 3rd coke oven also.	<ul style="list-style-type: none"> The unit has completed civil foundation for 3rd WHRB. 	Yet to comply (the unit was closed for long time)	According to industry's submission installation of third WHRB will be completed in first quarter of 2015.
Will install monitoring system for Benzo (a) pyrene.	<ul style="list-style-type: none"> Benzo (a) pyrene concentration was being monitored at regular intervals. 	Complied	Benzo (a) pyrene concentration is being monitored at regular intervals and results are within permissible limit.

Status of Implementation of Action plans for Haldia area as on December 2015

M/s. TATA Chemicals Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line stack monitoring systems to be installed for monitoring of particulate matter emission & Interlocking facility shall be provided with the APCD.	<ul style="list-style-type: none"> • Already installed on-line stack monitoring system for measuring SO₂ with interlocking facility for both sulphuric acid plants • SPM analyser could not be installed due to high moisture content and fluoride content in of the tail gas. Stack monitoring is done on regular basis 	Complied	Implemented
Continuous on-line stack monitoring system for monitoring of NO _x to be provided for the stack connected to the Rotary Kiln of the STPP plant stack.	<ul style="list-style-type: none"> • For measuring the NO_x concentration, NO_x Analyser has been installed in STPP. However the STPP plant was not in operation due to market scenario resulting into decrease in pollution load. 	Complied	Non-operation of STTP resulting into decrease in pollution load
Facility for monitoring ambient air quality at least in 3 locations shall be developed.	<ul style="list-style-type: none"> • The ambient air quality monitoring is carried out twice at three different locations both upstream and downstream of the site on regular basis 	Complied	Implemented
ETP to be upgraded to meet permissible limit for Fluoride.	<ul style="list-style-type: none"> • On-line pH meter has been installed at different points of ETP (flash mixer 1 & 3 and ETP outlet). Dosing of chemical done at regular interval to maintain norms. 	Partial compliance.	Activity regarding installation of online fluoride measuring monitor and also phosphate, BOD, COD & TSS measuring monitor in ETP In progress. Technical specification from manufacturer has been received and technical evaluation of the same is in progress.

Status of Implementation of Action plans for Haldia area as on December 2015

M/s United Phosphorous Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line stack monitoring systems to be installed for the 8 TPH coal-fired boiler.	<ul style="list-style-type: none"> Continuous online monitoring system was installed in December 2011. But in October 2012 the same got damaged by lightning. Commitment regarding operating the system within May 2014 has been submitted. 	Achieved earlier but presently non-functional	According to submission of industry new system will be installed within December 2014. Action initiated for implementation
ETP will be augmented and upgraded for handling existing as well as incremental waste-water load.	<ul style="list-style-type: none"> The unit has chemical and biological treatment facility in ETP Some infrastructure development work has been completed in ETP area 	Action taken for compliance	Under implementation

M/s Rohit Ferro Tech Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Dry Fog Dust Suppression Systems For Controlling Fugitive Emission to be installed.	Dry Fog Dust Suppression Systems already installed in all the ground hoppers. Other fugitive emission prone zones like conveyers and conveyer junctions (where water mist is a problem) are enclosed from all directions to avoid dust pollution.	Complied	Implemented
Bag-House Collection Hoppers to be enclosed on all sides with opening door for removal of bag-filter dust.	Bag-House Collection Hoppers already installed. The Bag House was completely enclosed from the sides with an opening for removal of Bag-Filter Dust. Recently the place and structure is being modified (work in progress) for easier work and better results.	Complied	Implemented

Status of Implementation of Action plans for Haldia area as on December 2015

M/s Modern India Concast Ltd.-

Action Points	Status as on December, 2015	Compliance Status	Remarks
Will install Dry Fog Dust suppression systems for controlling fugitive emission.	Already installed dry fog system for controlling fugitive emission	Complied	Implemented
The unit has multi-Cyclone & Bag-filter as the APCDs for the Sub-merged Electric Arc Furnaces. Will enclose collection hoppers of bag houses on all sides with opening door for removal of bag-filter dust	<ul style="list-style-type: none"> Multi-Cyclone and Bag Filters have been installed. The hoppers of the bag houses are completely enclosed. To control secondary fugitive emissions, covered top with movable door in all the furnaces and also canopy in all tap holes have been provided to direct the fumes into the atmosphere through pollution control system. As a practice, all internal roads of units have been concreted. Further, regular water sprinkling is carried out by tankers and sprinklers in all the internal roads and also shop floor of the furnaces. 	Complied	Implemented

M/s Manaksia Ltd.

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line stack monitoring systems to be installed for the stack connected to Aluminium melting furnaces.	The opacity meter is already installed with the stack connected to aluminium melting. The same is running successfully.	Complied	Implemented
The neutralized effluent from the neutralizing chamber to be passed through an Iron-removal filter prior to discharge/reuse of the effluent which is to be installed.	An ETP is constructed with iron removal facility before discharge.	Complied.	The effluent treatment plant in steel mill is upgraded and treated water is used in process and domestic purpose.

Note: Presently the unit is closed.

Status of Implementation of Action plans for Haldia area as on December 2015

M/s Tata Steel Ltd - Hooghly Met Coke Div.

Action Points	Status as on December, 2015	Compliance Status	Remarks
<p>All unpaved roads including loading and unloading area must be concreted and movable water tanker fitted with water sprinkler as dust suppression system should be provided</p>	<ul style="list-style-type: none"> • All the roads in the material handling area (approx 2 KM) have been paved and movable water tanker of capacity of 17000L (approx) with sprinkling arrangement is used for water sprinkling purpose in the road within factory and in the periphery area. • The mechanised Mobile Vacuum Cleaning system is being used regularly for arresting the fugitive emission. 	<p>Complied</p>	<p>Implemented</p>
<p>The mineral stock yard should be guarded with boundary walls and in case of storage of fine or dusty materials it must be covered with tarpaulins when not in use and provision of water sprinkling arrangements / Dry fog systems should be there when in use</p>	<ul style="list-style-type: none"> • All around the stock yard the boundary wall has been constructed. The average height of the wall is 5 mt. • 30 numbers of the "Rain Gun Water Sprinklers" have been installed in the coal yard to prevent the generation of fugitive emission from the coal heap. These sprinklers rotate at 360^o and can spray the water at a radius of 15 meter • Dust suppression systems "dry fogging" for coal and coke handling to restrict particulate emission to within 10 mg per cu m have been installed at The Wagon tippler unit, coal crusher unit, Coal / coke transfer points like different Junction Houses, screen house etc. 	<p>Complied</p>	<p>Implemented</p>
<p>Wash water should be treated in sedimentation tank for re-use / re-cycle instead of direct discharge</p>	<ul style="list-style-type: none"> • The coke quenching water is re-cycled. The water after quenching is being stored in the settling pond which is added up with make-up water and re-used for quenching purpose. 	<p>Complied</p>	<p>Implemented</p>

Status of Implementation of Action plans for Haldia area as on December 2015

Action Points	Status as on December, 2015	Compliance Status	Remarks
<p>During transportation of material by trucks / trippers etc. through public roads or inside the factory premises, the material should be properly covered with tarpaulin sheets in order to prevent the spreading of dust</p>	<ul style="list-style-type: none"> • There is no transportation of material by trucks / trippers through the public road. <p>Coal is being unloaded through fully covered wagon tippler and transported to the coal yard through covered conveyor belts. Inside the factory also there is no transportation of micro fine material. Only the material (e.g coke / coke sludge etc.) having moisture of 10-12% is being transported. For which Tarpaulin cover is not needed as no dust generated because of this transportation</p>	Complied	Implemented
<p>Monitoring system for Benzo(a)pyrene to be installed</p>	<ul style="list-style-type: none"> • The technology uses “non-recovery type of coke oven gas” so no coal tar is being generated and recovered from the process, so the generation of Benzo(a)pyrene does not take place from the process. • Testing for Benzo(a)pyrene in the ambient air has been done by the third party and the results are found Below the desired limit. 	Complied	Implemented

Status of Implementation of Action plans for Haldia area as on December 2015

Vegetable Oil Processing Units - M/s Adani Wilmar Ltd., M/s Ruchi Soya Industries Ltd., M/s Gokul Refoils & Solvent Ltd., M/s K.S. Oils Ltd., M/s Emami Bio-Tech Ltd.

Action Points	Status as on December, 2015	Compliance Status	Remarks
Continuous on-line monitoring systems for stacks (connected to coal/oil-fired boiler/TFH with real time reading to be installed.	<ul style="list-style-type: none"> M/s Adani Wilmar Ltd. - The online stack monitoring system has been installed and working successfully. M/s Ruchi Soya Industries Ltd. - has installed online stack monitoring system. M/s Gokul Refoils & Solvent Ltd. - has installed online stack monitoring system with the boiler stack M/s K.S. Oils Ltd. – The unit is presently closed. M/s Emami Bio-Tech Ltd. has installed online stack monitoring system for 18 TPH and 16 TPH boilers, 15 lakh and 10 lakh kcal TFH and 20 lakh Kcal SFTS 	<p>Complied</p> <p>Complied</p> <p>Complied</p> <p>M/s. K.S Oils Ltd- Presently closed.</p> <p>Complied</p>	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>
Pneumatic Ash handling system to be adopted for collection and disposal of ash from the bottom of the APCDs (ESP/Bag-filter/Cyclone Separator etc)	<ul style="list-style-type: none"> M/s Adani Wilmar Ltd. – Installed and working successfully M/s Ruchi Soya Industries Ltd. - Pneumatic ash handling system in unit -3 is already installed and in operation M/s Gokul Refoils & Solvent Ltd. - has installed the pneumatic ash conveying system for its boiler and the same is running smoothly M/s K.S. Oils Ltd. – The unit is presently closed. M/s Emami Bio-Tech Ltd. - Pneumatic ash conveying system installed with all pollution control device. Now all fly ash disposed by tanker after proper conditioning of ash 	<p>Complied</p> <p>Complied</p> <p>Complied</p> <p>The unit is presently closed.</p> <p>Complied</p>	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>

Status of Implementation of Action plans for Haldia area as on December 2015

Vegetable Oil Processing Units - M/s Adani Wilmar Ltd., M/s Ruchi Soya Industries Ltd., M/s Gokul Refoils & Solvent Ltd., M/s K.S. Oils Ltd., M/s Emami Bio-Tech Ltd.

Action Points	Status as on December, 2015	Compliance Status	Remarks
Dust extraction system shall be installed in the coal crushing section.	<ul style="list-style-type: none"> • M/s Adani Wilmar Ltd.- Installed and working successfully • M/s Ruchi Soya Industries Ltd. - Manual water spraying system is provided for dust suppression. • M/s Gokul Refoils & Solvent Ltd. - Dust extraction system is installed and working smoothly. In order to increase efficiency an additional dust extraction system is installed in coal crushing system of boiler and the same is in operation. • M/s K.S. Oils Ltd. – The unit is presently closed. • M/s Emami Bio-Tech Ltd. - Installed and working satisfactorily 	<p>Complied</p> <p>Complied</p> <p>Complied</p> <p>-----</p>	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>
Treated water shall be reused for various purposes like gardening / maintaining green belt, sprinkling in dust prone area, etc.	<ul style="list-style-type: none"> • M/s Gokul Refoils & Solvent Ltd. - Treated water is being reused for various purposes like gardening / maintaining green belt, sprinkling in dust prone area & road cleaning etc. • M/s Ruchi Soya Industries Ltd. – the use of treated water in gardening/maintenance of green belt and sprinkling in dust prone area in proper working mode • M/s Emami Bio-Tech Ltd – ETP treated water is used in ash conditioning before loading the ash from silo, quenching of dust on road, for maintaining green belt inside factory and as make up water for barometric cooling tower after conditioning • M/s Adani Wilmar Ltd.- ETP treated water is being used for sprinkling and gardening 	<p>Complied</p> <p>Complied</p> <p>Complied</p> <p>Complied</p>	<p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>

Status of Implementation of Action plans for Haldia area as on December 2015

• Long term action points

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
<p>Will install 2 additional WHRBs for the 2 coke oven plants.</p> <p>Green belt to be developed over at least 33% of the plant premises.</p>	<p>M/s Electrosteel Castings Ltd</p>	<ul style="list-style-type: none"> Installation of 2 nos. of additional WHRBs is uneconomical, as reported. Green belt is developed over 55000 square metre area along the periphery of the plant which is more than 33% of uncovered area. 	<p>Installation of additional WHRB is techno-economically not viable</p> <p>complied</p>	<p>Implemented</p>
<p>Wet collection of gypsum in gypsum pond to be phased out and gypsum to be collected in dry form for use in cement industries and other purpose</p>	<p>M/s Tata Chemicals Ltd.</p>	<p>Though the gypsum produced by Central Prayon Process (CPP) is dry gypsum, as a part of process during start-up for stabilisation of plant and during shutdown to avoid choke-up wet dehydrate gypsum is generated and transferred to existing gypsum pond. Hence wet collection of gypsum partially continues even with new CPP process.</p>	<p>Partial compliance</p>	<p>Presently the STPP plant is not in operation.</p>
<p>Green belt to be developed over at least 33% of the plant premises.</p>	<p>M/s Modern India Concast Ltd</p>	<ul style="list-style-type: none"> Green belt has been developed by planting 7771 no. of saplings within plant premises 4 acres of water body inside the plant premises has been used for storing of rain water and beautified with plantation of trees. 	<p>Complied</p>	<p>Implemented</p>
<p>Green belt to be developed over at least 33% of the plant premises.</p>	<p>M/s Rohit Ferro Tech Ltd</p>	<ul style="list-style-type: none"> Green belt has been developed over 32% of factory land area. Balance 1% of plantation will be completed in the coming monsoon. 	<p>Mostly complied</p>	<p>Almost implemented</p>

Status of Implementation of Action plans for Haldia area as on December 2015

• Long term action points

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
Facility for Rain water harvesting to be implemented Green belt to be developed over at least 33% of the plant premises.	M/s. Tata Steel Ltd. Hooghly Met Coke Division	<ul style="list-style-type: none"> Rainwater is being collected to the storm water pond and is being reused in the quenching tower for coke quenching. Total 25000 trees have been planted within the premises. In the south side of the factory 5 tier tree of length approx. 10 feet have been planted. Those trees are leafy for dust absorption. Additional 1000 trees planted in the public road. 	Complied Complied	Implemented
Automatic grid caster to be installed	M/s Exide Industries Ltd	<ul style="list-style-type: none"> As informed automatic grid caster is not suitable for the existing plant. 	Yet to comply	Not suitable for the existing plant. Will be considered in future up gradation project.
Green belt to be developed over at least 33% of the plant premises.	M/s United Phosphorous Ltd	<ul style="list-style-type: none"> Plantation programme is being done on regular basis. Green belt has been developed in a new area behind fire pond covering about 700 square meter area. 	Under compliance	Mostly implemented
Future proposal of re-utilization of treated effluent in process.		<ul style="list-style-type: none"> As informed, there is a proposed plan for using treated effluent for gardening purpose. For this work the unit has installed necessary equipment. Part of treated effluent is used in gardening purpose. 	Under compliance	Mostly implemented

Status of Implementation of Action plans for Haldia area as on December 2015

• **Long term action points**

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
Facility for rain water harvesting to be implemented	Individual industry	<ul style="list-style-type: none"> Majority of industries have made arrangements for harvesting the rain water. 	Mostly complied.	Mostly implemented
De-siltation of Greenbelt canal and new drainage facility is to be made to link with the Greenbelt canal.	IOC & KPT.	<ul style="list-style-type: none"> Major portion of greenbelt canal (GBC) has been de-silted. Desiltation of remaining portion of GBC is under progress. 	Under compliance	Implementation under progress
Development of infrastructure such as improvement of road conditions, railway flyover, construction of Truck terminus and parking facility.	Railway Authority, KPT, Haldia Municipality and NHAI.	<ul style="list-style-type: none"> Haldia Municipality has completed 90% of road work (concrete/ bituminous) in the region under its jurisdiction (110 Km² areas). The work for fly over at Railway Crossings is under active consideration as reported by CEO, HDA. Rollat. Port Trust has provided land on license basis to HDA at City Centre for establishment of Truck Terminus and presently it is operational. Construction of 15.5 km Bituminous Road has been completed. Construction of 23.0 km concrete road has been completed. Construction of 5.0 km road with paver blocks has been completed. Additional construction of roads has been approved by the Board of HDA. Construction of NH-41 completed and in operation Very recently proposal has been taken under 	Under compliance	Progress of implementation is satisfactory

		AMRUT and SMART CITY projects for construction of 400 KM of various types of road widening		
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• Long term action points

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
Proper infrastructure for Collection, transportation, segregation, treatment and disposal of Municipal solid waste	M/s. WBWML and Haldia Municipality	<ul style="list-style-type: none"> M/s WBWML is collecting the MSW from 26 wards of Haldia. (MSW - 75 Ton/ day, Household- 35000) At primary level MSW is collected in a hydraulic auto tippler and further it is transferred to dumper placer and transported to WBWML site. Segregation is done in WBWML site. Compost produced at WBWML site is taken by external agency for agricultural use. Non-biodegradable MSW is disposed at the Sanitary land-fill facility. 	Complied	Implemented
Development of adequate Greenbelt along the periphery of each individual industry as well as industrial estate.	Concerned industry and Municipal Authority	Haldia Municipality is developing green belt at residential area as well as industrial zone jointly with Forest Department.	Complied	Implemented
Training / Awareness Program for off-site emergency	District Administration Haldia Municipality and HDA	<ul style="list-style-type: none"> Various types of training/ awareness programmes are being organised by District Administration, Haldia Municipality and Haldia Development Authority for local populace. Industries are also taking active part and initiative to spread such type of awareness in collaboration with Municipality, Development Authority, Confederation of Indian Industries, Bengal Chamber of Commerce and others. HDA has associated itself with the district administration, Bengal 	Under compliance	Implemented. This is a continuous process

		Chamber of Commerce and Industries of CII in organizing mock drill and awareness programmes. However, HDA has not done any such training from its end.		
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• **Long term action points**

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
Setting up of Automatic air quality monitoring stations including introduction of VOC monitoring in strategic location especially Chemical and Petro-Chemical industries.	Individual industries	<ul style="list-style-type: none"> Setting up of Automatic Air Quality Monitoring Stations have been either already achieved or nearing completion/ commissioning by the Large Units. Monitoring of VOC at strategic locations of the Chemical/Petrochemical Units are being done. 	Mostly complied	Mostly implemented
To materialize the Co-processing of hazardous waste in long run	M/s. MCCPTA	<ul style="list-style-type: none"> Co-processing of some hazardous waste has been started with M/S Ambuja Cement. The co-processing of hazardous waste is being carried out in their Chhattisgarh Cement Plant. CPCB has issued permission for Co-processing of hazardous waste of MCCPTA. The regular co-processing activity has been started from 2nd quarter of 2013 and is going on regular basis. So the Incineration operation was stopped from 1st Oct'13. 	Complied	Implemented
To install similar Off-gas burning unit in the existing plant based on the performance of the present installation with an investment of 2.6 Million US \$.		<ul style="list-style-type: none"> Off gas burning unit (OGBU) is already installed in the new plant. The operation of the new plant is yet to achieve stabilization at 100% of the rated capacity so that the efficiency of the OGBU can be judged. Subsequently, on the basis of the performance similar unit to be installed for the old plant. 	Partially complied	Partially Implemented
To install similar Alkaline scrubber in the existing plant for flue gas cleaning for reduction of SO _x based on the performance of the present installation.		<ul style="list-style-type: none"> Both PTA plants are operating using "Grid Power" and stopped DEG operations from April-2015. Hence Alkaline Scrubber Installation (for SO_x reduction) is not required. 	Complied	To be implemented

To upkeep the existing green belt & landscaping with new plantation.		<ul style="list-style-type: none"> Maintaining the existing green belt and also regular plantation programs are taken up. 	Complied	Implemented
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• Long term action points

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
Laying of sewerage system and sewage treatment plant	HDA & Haldia Municipality	<ul style="list-style-type: none"> Oxidation pond already exists for the township area which caters to about 25% of the populace under Haldia Municipality. Sewerage Master Plan for Haldia Municipal area has already been prepared by HDA. It includes the design, collection, conveyance and treatment plant for sewerage for an area of 34.9 sq. km. at an estimated cost of 213.93 crore. The plan has been prepared by IIT, Kharagpur, HDA will implement the Master Plan in a phased manner from the next financial year (2014-15). 	Action initiated for compliance	To be implemented
Storm water management	HDA, Haldia Municipality, Irrigation Department.	<ul style="list-style-type: none"> HDA has already constructed drainage system in almost all the areas for storm water management. Construction of 700 mts. Drain along the road vis Adani Wilmar Ltd. has been completed. Construction of 500 mtr. Drain at Azad Hind Nagar area has been completed. NIT for construction of 4 km long drain along HPL Ling Road to Mansatala Canal is being invited and the work is under progress (beyond tender quotation). The desiltation of Chunamara canal has been done by Haldia Municipality with the financial assistance of HDA. Project desiltation of Manansatala Canal has been taken up by HAD through I&WD Deptt. The de-silting of Mansatala Green Belt, Horekhali, Bhagyabantapur and Atafala Canals and repairing of lock-gates and sluice-gates of the respective canals will be taken up soon. 3 km long drain along HPL Link Road from Mansatala Canal to Kshudiram Square (Manjushree More) is under progress. Survey work completed for the first phase for the stretch from Manjushree More to Atafola 	Positive steps initiated for compliance	Mostly complied and further implementation is going on.

Action Points (including source & mitigation measures)	Responsible Stake Holders	Status as on December, 2015	Compliance Status	Remarks
		<p>Khal and in the second phase the stretch from Manjushree More to Bhagyabantapur along SH-4. De-siltation of the Chunamara Khal is completed.</p> <ul style="list-style-type: none"> It is decided that the primary drains as per Master Plan would be constructed by HDA and the secondary and tertiary drains would be constructed by Haldia Municipality. Very recently proposal has been taken under AMRUR project for construction of near about 300KM drain of various types 		

- Long term action points**

Creation of Green Belt within Haldia	HDA	<ul style="list-style-type: none"> Planting of trees at the following area has been completed: <ul style="list-style-type: none"> Both sides of HPL link road from City Centre to Khudiram Square (Manjushree More) (about 6 km each side). Median Plantation on the NH-41 from Nandakumar to Ranichak Railway Crossing (about 25 km.) Both sides of the road from HPL Link Road to the factory of Emami Biotech Ltd. via Adani Wilmar Ltd. and Shyamol Ispat Ltd. (about 1 km each side). Along the roads of Gandhinagar and Bhabanipur Rehabilitation Colony (about 5 km) Plantation of trees in front of various industries in Haldia area. Plantation of trees in front of factory of WEL has already been done. HDA held meetings with the representative of various industries to increase the green cover in Haldia area. Haldia Dock complex, Haldia Energy Ltd. (CESC Ltd.) and Tata Chemicals have already started planting of trees in and around their industrial complex. Plantation of about 30000 saplings has been completed under 'GREEN HALDIA CLEAN HALDIA' mission till date. 	Mostly complied	Progress of implementation is satisfactory
Plantation in front of various industries for beautification and increasing green cover	HDA & individual industries	<ul style="list-style-type: none"> Service corridor of HDA in front of most of the industries is being beautified by planting of trees. HDA has given permission to industries to take up the work. Many of the industries have already started such work. 		

Summary of Compliance Status:

During assessment of the progress made in implementation of Action Plans and subsequent improvement in the environmental condition of Haldia area, following points have been noticed:

- The implementations of Short Term Action Plans by the individual industries are either over or under final stage of completion.
- Positive steps initiated by various stake holders namely HDA, Haldia Municipality, NHAI and Industries for infrastructural development programs like drainage, sewage system, national highway, green belt development etc. as per action plans.
- Major portion of the Long Term Action Plans either completed or under compliance stage.
- The following positive measures have been initiated till December 2015:
 - ✓ Major stretch of the GBC has been de-silted. Other canal namely Chunamara Khal has also been de-silted.
 - ✓ Plantation in one side of the road from HPL Link Road to the factory of Electrosteel Castings Ltd. via factory of IPCL has already been taken up by HDA.
 - ✓ Most of the industries have started beautification of Service corridor of HDA in front of the individual industries by planting of trees; HDA has been helping and motivating all such industries for initiating such beautification process.
 - ✓ Most of the beautification of roads along HPL Link Road to Mansatala Canal is under progress.
 - ✓ Plantation of about 5000 saplings has been completed under "GREEN HALDIA CLEAN HALDIA" mission till date.
- It has been observed that there is a decreasing trend in CEPI score (61.58) during April, 2013 as compared to CEPI score (75.43) during 2010, both calculated by CPCB (available in CPCB website). Efforts will be continued in future for further improvement of environmental quality and a lower CEPI.

Status of Implementation of Action plans for Howrah area as on December 2015

Short Term Action Points:

Sl no.	Action points	Stake holder	Status (Jalan Complex) as on March 2014	Status (Bamungachi area) as on December 2015	Compliance status	Remarks
1	Technological development of earthen pottery cluster so that emission can be arrested & treated	Earthen Pottery units	<ul style="list-style-type: none"> Earthen pottery cluster is not available in this complex. 	<ul style="list-style-type: none"> In this region, there is a pottery cluster consisting of about 50 pottery units. They are making earthen cups (Kullahad). During discussion with pottery makers, they informed that most of the families are below poverty Line (BPL) and illiterate. Silty clay/ Black clay (procured from Canning, Diamond Harbour region) is raw material for pottery items. Coal is used as fuel for baking of the green pottery items. The burning of coal is main source of pollution. The coal consumption varies between 20 – 40 kg / day per unit depending upon market demand/ quality of clay and weather condition. During 2007-2008 an initiative was taken by WBPCB for technological improvement of pottery kilns in this cluster by installation of a kiln using cleaner fuel with support from GTZ, Germany. It was also decided that the proposed kiln will be used by all the potteries in this cluster on sharing 	Major nos. of earthen pottery manufacturing units located at this area have been relocated due to upcoming housing projects. No new earthen pottery units (using coal as fuel) are allowed to set up at this area.	

				basis. However this could not materialise due to number of constraints such as lack of awareness, tiny individual units etc.		
2	Rolling mills are to be encouraged to adopt coal gas	Individual industry	<ul style="list-style-type: none"> • 1 no. of Rolling mills has adopted Coal gas/ Producer gas technology. Remaining 4 mills are yet to adopt Coal gas technology. • Installation of Coal Gas technology requires huge investment (Rs 1 Crore approx). 	40 nos. Re-Rolling mills are in operation at Bamungachi area of Howrah. Out of which 10 nos. units are closed at present and 05 nos. are being operated by using coal gas as fuel. The rest Re-Rolling mills are being operated by Furnace Oil as fuel. Howrah Chamber of Commerce & Industries has already acquired land (600 acres approx.) at Jagatballavpur area of Howrah for industry cluster development. The Re-Rolling mills of Bamungachi area will shift their plant to this area.	Complied by some stake holders	Implementation is under progress

Status of Implementation of Action plans for Howrah area as on December 2015

Long Term Action Points

Sl no.	Action points	Stake holder	Status as on December 2015	Compliance status	Remarks
1	Installation of CETP at Jalan Industrial Complex	Industry Association Industry, WBPCB, MOEF as per CETP cost sharing principle of MOEF, coordinated by SPCB	Out of 480 units located within Jalan Industrial Complex, out of which 25 are major water polluting in nature. 04 nos. are Edible Oil Processing units, 15 nos. are Hot Dip Galvanising units and 06 nos. are Dyeing and Bleaching units. All these units are located in a scattered manner within the complex and liquid waste generated from these units passes through a common drain which leads to Saraswati river. The quality of mixed effluent available at the end point of the drain is not fit for treatment in a common effluent treatment plant (CETP). Moreover, for discharging storm water the drainage system within the complex is same. So it will be very difficult to assess the load of the CETP during rainy season. However all the major water polluting industries situated within the complex have their individual ETP.	Action initiated for compliance	Individual industries are mostly complying with effluent discharge norms
2	Installation of AAAQM at Jalan Industrial Complex	Industry association and Industry	<ul style="list-style-type: none"> Installation of AAAQM Station to be done with joint funding of WBPCB and CPCB as discussed during 58th Chairmen and Member Secretaries Conference held at Bangaluru. 	Action initiated for compliance	
3	Development of proper drainage facility in Jalan Industrial Complex	Industry association and Industry	<ul style="list-style-type: none"> Main drainage system- 5.325 Km concreted 	Complied	Implemented

Sl no.	Action points	Stake holder	Status as on December 2015	Compliance status	Remarks
4	Development of proper roads in Jalan Industrial Complex	Industry association and Industry	<ul style="list-style-type: none"> Road construction- 25 Km (Black stone brick laying) 	Complied	Implemented
5	Embankment and desilting of effluent carrying canal at Jalan Industrial Complex	Industry association and Industry	<ul style="list-style-type: none"> De-silting of the drains is carried out in a regular interval. 	Under compliance	Implemented
6	Development of roads in Bamungachi area	Howrah Municipal Corporation and Bally Municipality	<ul style="list-style-type: none"> Maintenance of existing road is being done time to time. 	Under compliance	Under implementation
7	Development of drainage system in Bamungachi area	Howrah Municipal Corporation and Bally Municipality	<ul style="list-style-type: none"> Maintenance of existing drainage system is regular activity of concerned municipality. Strengthening of drainage system is under consideration. 	Under compliance	Under implementation
8	Tree plantation in both areas	Howrah Municipal Corporation and Bally Municipality, local Panchayats and Industry Association	<ul style="list-style-type: none"> Some plantation program has been initiated in both the areas 	Under compliance	Under implementation

Summary of Compliance Status:

During assessment of the progress made in implementation of Action Plans and subsequent improvement in the environmental condition of Howrah area, following points have been noticed:

- Some of the Short Term Action Plans implemented by few individual industries and stake holders.
- Some of the Long Term Action Plans already complied. Few other Action Plans are either partially complied or under consideration.
- It has been observed that there is a decreasing trend in current CEPI score (61.11) as compared to CEPI score (74.84) during 2010, both calculated by CPCB (available in CPCB website). Efforts will be continued in future for further improvement of environmental quality and a lower CEPI.