Comprehensive Environmental Pollution Abatement Action Plans for the Industrial Clusters in West Bengal

Action Plan for Howrah

[Liluah-Bamungachi region and Jalan Industrial Complex]

FRAMEWORK OF MODEL ACTION PLAN
FOR
CRITICALLY POLLUTED INDUSTRIAL AREAS/ CLUSTERS

1. INTRODUCTION

1.1 Area Details including brief history (background information)

For Jalan Industrial Complex : Jalan Industrial Complex is a privately developed/promoted industrial hub whose area/boundary is not clearly defined. The area is not recognized as industrial zone/cluster by any governmental organization.

For Bamungachi Area : Bamungachi industrial cluster identified for CEPI is not defined as such.

1.2 Location

For Jalan Industrial Complex : The complex comprises of Mouza- Begri, Baniara & Biprannapara. New industries are constantly being set up, increasing the area of the complex.

For Bamungachi Area : Area under Malipanchghora, Liluah, Bally, Bantra Police Stations. Those areas are mostly coming under Howrah Municipal Corporation area.

1.3 Digitized Map with Demarcation of Geographical Boundaries and Impact Zones: (Map of Howrah is given in Fig.1, 2 & 3)

Fig. –1

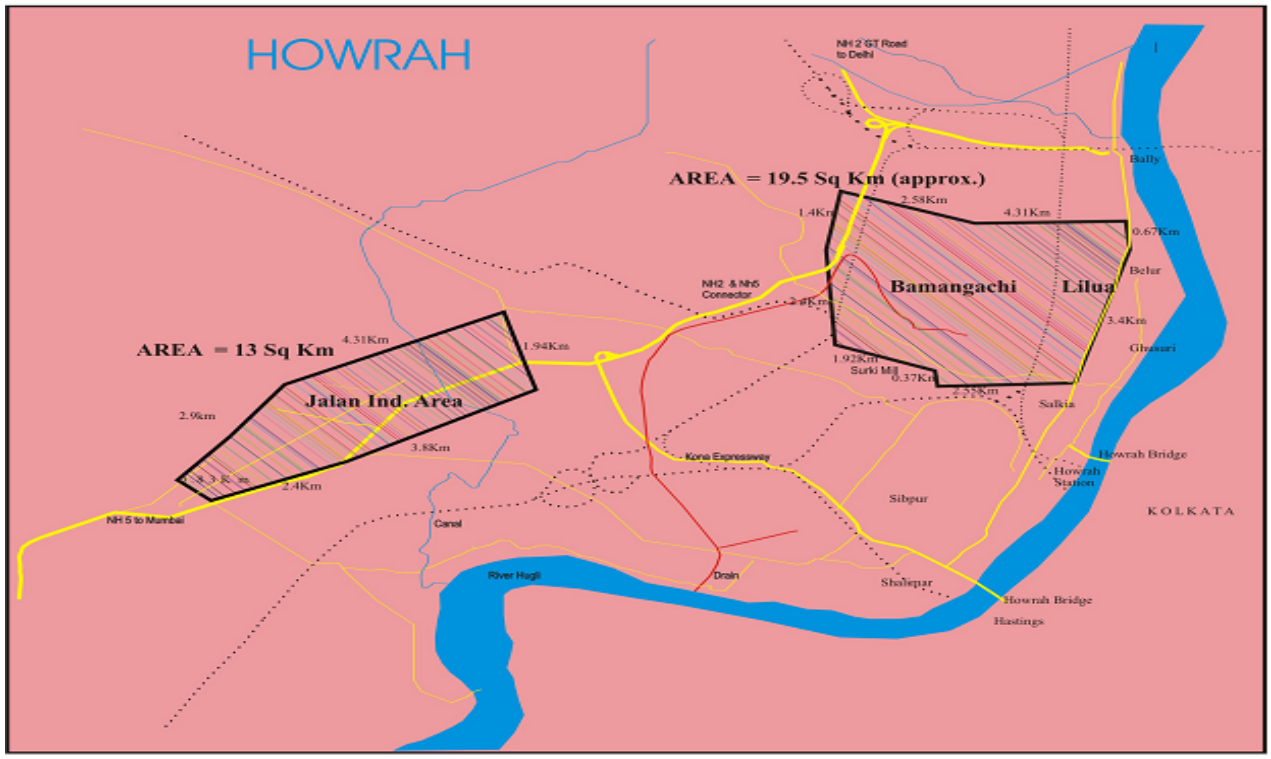
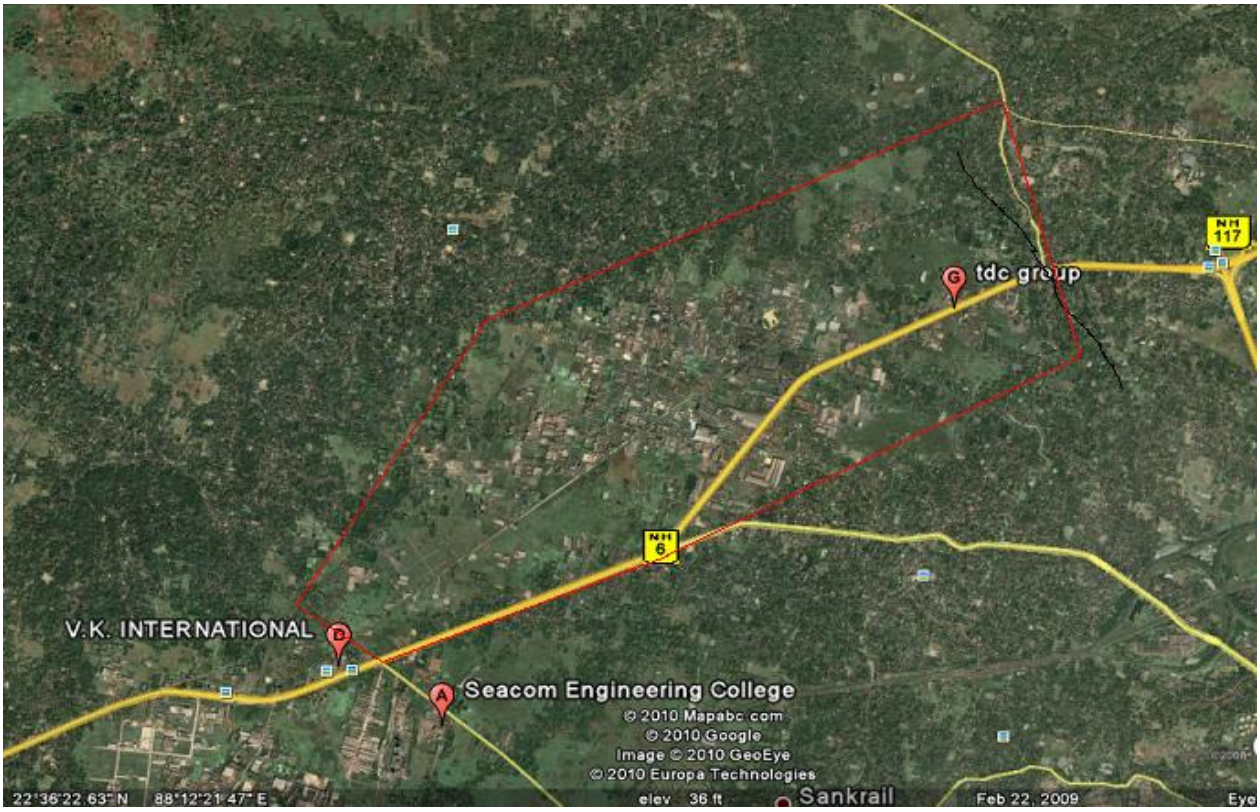


Fig. –2 Boundary (in Red line) of critically polluted area by CPCB at Liluah-Bamungachi

Fig. -3: Boundary (in Red line) of critically polluted area by CPCB at Jalan Industrial Complex



1.4 CEPI Score (Air, Water, Land and Total) – 57, 54, 63.5 and 74.84 respectively(CPCB).

1.5 Total Population and sensitive receptors (hospitals, educational institutions, courts etc) residing in the area comprising of geographical area of the cluster and its impact zone (minimum 2 km) –

For Jalan Industrial Complex : The complex is purely industrial. No sensitive receptors within its impact zone.

For Bamungachi Area : Bamungachi area is a dense conglomerate of industry and human settlement. Population density of the area may be the highest among the peer cities of the country. There are a number of sensitive receptors.

1.6 Eco-geological features Impact Zones [the area comprising of geographical area of the cluster and its impact zone (minimum 2 km)]

For Jalan Industrial Complex : No sensitive receptor within its impact zone.

For Bamungachi Area : There are a number of sensitive areas.

1.6.1 Major Water Bodies (Rivers, Lakes, Ponds etc)

For Jalan Industrial Complex : Barjora canal passes alongside the complex. Four nacchas (narrow waterways, or water channels) are connected to the Barojora canal. Before the Complex came up, the land was solely used for agricultural purpose, and the water of the Barojora canal and the nacchas was used for irrigation purpose.

For Bamungachi Area : Rani Jheel.

1.6.2 Ecological Parks, Sanctuaries, flora and fauna or any eco sensitive zones

For Jalan Industrial Complex : No such area.

For Bamungachi Area : Santragachi Jheel

1.6.3 Buildings or Monuments of Historical / archaeological / religious importance

For Jalan Industrial Complex : No such area.

For Bamungachi Area : Religious Importance - Belurmath

1.7 Industry Classification and distribution (no. of industries per 10 sq. km. area or fraction)

For Jalan Industrial Complex :

1.7.1 Highly Polluting Industries (17 Categories) – 05 nos.(list enclosed)
1.7.2 Red Category Industries (54 Categories) – about 86 nos. (list enclosed)
1.7.3 Orange and Green Category industries – above 120 nos.
1.7.4 Grossly Polluting Industries –03 nos. (list enclosed)

For Bamungachi Area :

1.7.1 Highly Polluting Industries (17 Categories) – 04 nos. (list enclosed)
1.7.2 Red Category Industries (54 Categories)–about 400 nos. (list enclosed)
1.7.3 Orange and Green Category industries – about 1300 nos.
1.7.4 Grossly Polluting Industries – 08 nos. (list enclosed)

2. WATER ENVIRONMENT

2.1 Present status of water environment supported with minimum one year analytical data –

For Jalan Industrial Complex : Major water polluting industries are – 02 nos. vegetable oil refining and processing industry, 20 nos. galvanising industry, 05 nos. of industries with pickling facility, 03 nos. dyeing and bleaching industry. Little amount of process effluent is generated from coal tar distillation plants.

Besides this, effluent is generated due to floor wash and vessel wash of miscellaneous industries like paint blending, biscuits manufacturing etc. Effluent generation of vegetable oil processing industries and dyeing & bleaching industries is continuous where as effluent generation from galvanising industry and cold rolling industries are intermittent. Vegetable oil processing industries have their Effluent Treatment Plant comprising biological treatment system and all galvanising industries and cold rolling mills have individual treatment system with physico chemical process of treatment. At present two vegetable oil processing industries generate at the rate of 15KL/day of effluent in total. Total generation of effluent per day from twenty number galvanising industry may be 20 KL. Industries with pickling process is 5 KL in total considering average generation of effluent per day from each industry is 1 KL. Three number dyeing and bleaching industry generates 75KL per day (considering effluent generation rate of individual industry is 25KL/day). Besides this industrial cooling water of different cooling system, boiler blow down water and floor wash and vessel washes and domestic effluent may be added.

Though all water polluting industries are having individual treatment system, those appear to be under designed and remained idle and unattended during operation due to various reasons. The Board has been persuing the industries for a long time and several punitive actions have been taken the defaulting units. Conditions of the effluent carrying drain/canal reflect the above fact. CEPI index also corroborates the above fact.

For Bamungachi Area : The industries present in the area are predominantly air polluting in nature.

2.1.1 Water bodies/effluent receiving drains in the area important for water quality monitoring. -

For Jalan Industrial Complex : Begri Canal.

For Bamungachi Area : Rani Jheel

2.1.2 Present levels of pollutants in water bodies / effluent receiving drains / ground water (routine parameters, special parameters and water toxics relevant to the area in three categories – known carcinogens, probable carcinogens and other toxics) -

For Jalan Industrial Complex : NA

For Bamungachi Area : NA

2.1.3 Predominant sources contributing to various pollutants –

For Jalan Industrial Complex : Industrial Effluent.

For Bamungachi Area : The units of area are predominantly air polluting in nature.

2.2 Sources of water pollution

2.2.1 Industrial -

For Jalan Industrial Complex : Vegetable oil processing industries have their Effluent Treatment Plant comprising biological treatment system and all galvanising industries and cold rolling mills have individual treatment system with physico chemical process of treatment. At present two vegetable oil processing industries generate at the rate of 15KL/day of effluent in total. Total generation of effluent per day from twenty number galvanising industry may be 20 KL. Industries with pickling process is 5 KL in total considering average generation of effluent per day from each industry is 1 KL. Three number dyeing and bleaching industry generates 75KL per day (considering effluent generation rate of individual industry is 25KL/day).Besides this industrial cooling water of different cooling system, boiler blow down water and floor wash and vessel washes and domestic effluent may be added.

For Bamungachi Area : The units of area are predominantly air polluting in nature.

2.2.2 Domestic –

For Jalan Industrial Complex : Domestic effluent due to workers employed for industrial activity

For Bamungachi Area : Discharged through Municipal drain.

2.2.3 Others (Agricultural runoff, leachate from MSW dump, illegal dump site etc.) -

For Jalan Industrial Complex : Not applicable.

For Bamungachi Area : Not applicable.

2.2.4 Impact on surrounding area under consideration -

For Jalan Industrial Complex : Though all water polluting industries are having individual treatment system,those appear to be under designed and remained idle and unattended during operation due to various reasons. Conditions of the effluent carrying drain/canal reflect the above fact. CEPI index also corroborates the above fact.

For Bamungachi Area : The units of area are predominantly air polluting in nature.

2.3 Details of Water Polluting Industries in the area / cluster -

For Jalan Industrial Complex : Major water polluting industries are – 02 nos. vegetable oil refining and processing industry, 20 nos. galvanising industry, 05 nos. of industries with pickling facility, 03 nos. dyeing and bleaching industry. Little amount of process effluent is generated from coal tar distillation plants. Besides this, effluent is generated due to floor wash and vessel wash of miscellaneous industries like paint blending, biscuits manufacturing etc.
For Bamungachi Area : The units of area are predominantly air polluting in nature.

2.4 Effluent Disposal Methods – Recipients water bodies etc. -

For Jalan Industrial Complex : Begri Canal.

For Bamungachi Area : Rani Jheel and river Hoogly

2.5 Quantification of waste water pollution load and relative contribution by different sources viz industrial / domestic -

For Jalan Industrial Complex : At present two vegetable oil processing industries generate at the rate of 15KL/day of effluent in total. Total generation of effluent per day from twenty number galvanising industries may be 20 KL. Industries with pickling process are 5 KL in total considering average generation of effluent per day from each industry is 1 KL. Three number dyeing and bleaching industry generates 75KL per day (considering effluent generation rate of individual industry is 25KL/day). Besides this industrial cooling water of different cooling system, boiler blow down water and floor wash and vessel washes and domestic effluent may be added.

Sl No.	Type of waste water	Quantity (KL/day)
1.	Industrial	130
2.	Domestic	500

For Bamungachi Area : The units of the area are predominantly air polluting in nature.

2.6 Action Plan for compliance and control of pollution

2.6.1 Existing infrastructure facilities – water quality monitoring network, ETPs, CETPs, Sewerage Treatment Plant of industry (STPs), surface drainage system, effluent conveyance channels / outfalls etc. -

For Jalan Industrial Complex : A large number of industries are yet to connect/develop proper and complete disposal system as there is no properly planned drainage network. Overflowing of industrial effluent into roads is a common phenomenon during monsoon. There is no CETP/STP or any other infrastructure facilities.

For Bamungachi Area : The units of area are predominantly air polluting in nature.

2.6.2 Pollution control measures installed by Industries -

For Jalan Industrial Complex : Individual units all having their own ETPs.

For Bamungachi Area : The units of area are predominantly air polluting in nature. Water polluting individual units are having their own ETPs.

2.6.3 Technological Intervention

2.6.3.1 Inventorisation of prominent industries with technological gaps –

For Jalan Industrial Complex : The industries in the area are kept under constant surveillance. Punitive action has been taken against the defaulting units.

For Bamungachi Area : The industries in the area are kept under constant surveillance. Punitive action has been taken against the defaulting units.

2.6.3.2 Identification of low cost and advanced cleaner technology for pollution control. -

For Jalan Industrial Complex : CETP is required to be constructed.

For Bamungachi Area : Predominantly Air Polluting in nature.

2.6.4 Infrastructure Renewal

2.6.4.1 Details of existing infrastructural facilities -

For Jalan Industrial Complex : The complex was started developing way back in 1984. The complex since than is growing up exponentially in completely unplanned and unorganised manner. Infrastructure development of the complex has not been taken seriously since its inception either. This has led to major drainage problem and poor road condition.

For Bamungachi Area : Road and drainage condition of the Bamungachi Industrial Area needs to be upgraded.

2.6.4.2 Need of up gradation of existing facilities –

For Jalan Industrial Complex : Urgent need of proper infrastructure development. So the concerned authority may be requested to improve the road condition and provide necessary infrastructure.

For Bamungachi Area : The concerned authority may be requested to improve the road condition and provide necessary infrastructure.

2.6.4.3 De-silting of water tanks, drains, rivulets, etc. -

For Jalan Industrial Complex : De-silting of the canal carrying effluent of the complex is required.

For Bamungachi Area : Improvement of drainage system in the locality.

2.6.4.4 Construction of lined drains/ connections –

For Jalan Industrial Complex : Embankment of the canal and construction of internal lined drainage system needs to be developed.

For Bamungachi Area : Required Improvement of drainage system in the locality.

2.6.4.5 Treatment and management of contaminated surface water bodies –

For Jalan Industrial Complex : CETP required to be installed.

For Bamungachi Area : Existence of industries which are predominantly air polluting in nature.

2.6.4.6 Rejuvenation/ Management Plan for important eco-geological features
–
For Jalan Industrial Complex : NA.

For Bamungachi Area : NA

2.6.4.7 Carrying of effluent from industrial units located in non-industrial locations to CETP facilities by lined drains/ pipelines only and prevention of their disposal into city sewerage/ surface drains. - NA.

For Jalan Industrial Complex : NA.

For Bamungachi Area : NA

2.6.4.8 Installation of Gen sets at CETPs –

For Jalan Industrial Complex : Should be installed.

For Bamungachi Area : NA

2.6.5 Managerial and Finance aspects

2.6.5.1Cost and Time estimate – 5 crores for installation of CETP at Jalan Industrial Complex by 2015.

2.6.5.2 Identified Private/Public sector potential investors and their contribution / obligation – Through Industrial Association.

2.6.5.3 Government Budgetary support requirement – Required.

2.6.5.4 Hierarchical and structured managerial system for efficient implementation – A body may be constituted.

2.6.6 Self-Monitoring System in Industries (ETPs) – Most of the industries have individual ETPs the performance of which are monitored on regular basis. Individual industries are encouraged to conduct self monitoring.

2.6.7 Data Linkages to SPCB/ CPCB (of monitoring devices) – NA.

3. AIR ENVIRONMENT

3.1 Present status of Air Environment supported with minimum one year analytical data -

For Jalan Industrial Complex : The main emission of these units is due to burning of fossil fuel like coal and furnace oil. The cast iron foundry units are mainly equipped with Dry Cyclone and Wet Scrubber as Air Pollution Control Device whereas Steel Foundries and Coal-fired Boilers of different industries are generally equipped with Cyclone/Wet Scrubber/Bag Filter (Please refer to Table-1).

For Bamungachi Area : The area is a dense conglomerate of industry and human settlement. Population density of the area may be the highest among the peer cities of the country. Due to this threat of urbanization and unplanned sporadic settlement of industries, poor infrastructure has gradually became worse. Poor road condition continues to defile ambient air quality to a great extent (Please refer to Table-2).

3.1.1 Critical locations for air quality monitoring –

For Jalan Industrial Complex : Any suitable and available location may be selected.

For Bamungachi Area : 01 no. Automatic Air Quality Monitoring Station (AAAQM) station is in existence.

3.1.2 Present levels of pollutants in air (routine parameters, special parameters and air toxics relevant to the area in three categories – known carcinogens, probable carcinogens and other toxic) –

For Jalan Industrial Complex : No available data [However, ambient air quality of two areas near Jalan Industrial Complex is given in Table –1]

Table -1: Ambient Air Quality Data of Jalan Industrial Complex

Station	Month	Nov. 2009	Dec. 2009	Apr. 2010	May. 2010
Dhulagarh	RPM(µg/m3)	147	205	100	68
	SO2(µg/m3)	11.7	15.1	12.8	8.6
	NO2(µg/m3)	86.8	104.2	75.0	67.3
Sankrail	RPM(µg/m3)	124	163	92	60
	SO2(µg/m3)	9.4	12.7	9.8	6.8
	NO2(µg/m3)	71.7	89.8	68.2	58.9

For Bamungachi Area : (Given in Table-2).

Table –2: Ambient Air Quality Data of Bamungachi

Daily averaged data of air quality of Howrah												
Parameters	Unit	Days of July 2010										
		10	11	12	13	14	15	16	17	18	19	20
Sulfur Di Oxide	µg/m3	20.35	30.96	32.69	19.36	21.08	9.75	28.59	16.07	24.17	20.2	2.17
Nitrogen Di Oxide	µg/m3	21	26	36	38	19	18	19	19	20	19	22
Respirable Particulate Mater	µg/m3	130	113	115	141	146	85	86	71	75	59	56
Ozone	ppb	24.06	17.45	17.9	10.35	16.67	14	13.35	13.53	13.15	12.58	10.82
Carbon Monoxide(00:00 to 08:00)	mg/m3	0.45	0.58	0.61	0.91	0.74	N.A.	0.51	0.44	0.49	0.43	0.37
Carbon Monoxide(08:00 to 16:00)	mg/m3	0.62	0.69	0.77	0.87	0.55	N.A.	0.6	0.45	0.52	0.45	0.49
Carbon Monoxide(16:00 to 24:00)	mg/m3	0.61	0.75	0.76	1.51	0.57	N.A.	0.63	0.52	0.55	0.54	0.49

3.1.3 Predominant sources contributing to various pollutants – Industrial automobiles and re-suspension of road dust.

3.2 Sources of Air Pollution viz industrial, domestic (Coal & Biomass Burning), natural and Transport & Heavy Earth Movers. - both industrial and movement of heavy vehicle.

3.3 Air Polluting Industries in the area/ cluster -

For Jalan Industrial Complex : Major air polluting industries are – 03 nos. CI Foundry, 03 nos. Steel Foundry with rolling mill, 02 nos. Rolling mill, 02 nos. Plywood factory, 04 nos. Zinc processing unit, 05 nos. Secondary Lead Smelting, 20 nos. Hot Dip Galvanizing Unit, 02 nos. Vegetable oil refining and processing industry, 01 no. Silicate Mfg. Unit, 03 nos. Dyeing and Bleaching industry, 01 no. Cement Unit, 02 nos. Forging Unit.

For Bamungachi Area : The cluster is predominantly one comprising of about 150 nos. Cast Iron Foundries, 50 nos. re-rolling mills, some forging units and galvanising units and numerous engineering units. A few number of secondary lead smelting units are also operating in the area. However, Cast Iron Foundries may be considered as the main contributor of air pollution in the area.

3.4 Impact of activities of nearby area on the CEPI Area – There are number of industries in the close proximity of CEPI area. However, the impact of those industries over CEPI can visualised on the basis of ambient air quality report given in Table – 1 & 2.

3.5 Quantification of the air pollution load and relative contribution by different sources –

For Jalan Industrial Complex : Not assessed .

For Bamungachi Area : AAAQM data enclosed.

3.6 Action Plan for compliance and control of pollution –

3.6.1 Existing infrastructure facilities – Ambient air quality monitoring network-

For Jalan Industrial Complex : Presently not in existence.

For Bamungachi Area : 01 no. AAAQM station is in existence.

3.6.2 Pollution Control Measures installed by the individual sources of pollution – Most of the industrial units have emission control devices, the performance of which is being monitored by Board on regular basis.

3.6.3 Technological Intervention -

Coal/Oil fired rolling mills may be converted into gas fired by installation of coal gasifier plant. For such conversion 01 (one) year time may be allowed. For existing foundries which operates using old technology may be directed to adopt following quality and environment improvement measures -

- use of oxygen injection or enrichment of blast air
- super heating of blast air in hot blast cupola
- use of coke less cupola where metal charge is heated by natural gas
- use of filter on exhaust, especially in casting and finishing shops
- use of vacuum cleaning in moulding and casting shop
- use of dry dust collection technology in green sand preparation plants
- to reduce So_2 and PM in emission, use of low sulphur and low ash content coal and scrap should be encouraged.

3.6.3.1 Inventorisation of prominent industries with technological gaps – : The industries in the area are kept under constant surveillance. Punitive action has been taken against the defaulting units.

2.6.3.2 Identification of low cost and advanced cleaner technology for pollution control. - Already mentioned in item no. 3.6.3.

2.6.3.3 Introduction and switch over to cleaner fuel - Already mentioned in item no. 3.6.3.

3.6.4 Need of Infrastructure Renovation -

3.6.4.1 Development of Roads -

For Jalan Industrial Complex : Internal roads of about 10 KM to be developed so that it can facilitate movement of heavy vehicles which would help to improve ambient air quality as well.

For Bamungachi Area : Improvement of roads of the locality will be done by HMC.

3.6.5 Impact on CEPI score after installation / commissioning of full fledged air pollution control systems – would be reduced significantly.

3.6.6 Managerial and Finance aspects-

3.6.6.1 Cost and Time estimate –

For Jalan Industrial Complex : 02 crores for installation of AAAQM station.

For Bamungachi Area : NA

3.6.6.2 Identified Private / Public sector potential investors and their contribution/obligation –Local Industry Association.

3.6.6.3 Government Budgetary support requirement – .Required

3.6.6.4 Hierarchical and structured managerial system for efficient implementation – A body may be constituted.

3.6.7 Self monitoring system in industries (Stacks, APCDs) - Most of the industries have Emission Control Systems, the performance of which are monitored on regular basis. Individual industries are encouraged to conduct self monitoring.

3.6.8 Data Linkages to SPCB/ CPCB (of monitoring devices) – Exists.

4. LAND ENVIRONMENT (Soil and Ground Water)

4.1 Soil contamination – No available record.

4.2 Ground water contamination – Ground water quality is given in Table -3

Table –3: Ground water quality of Howrah

Ground Water Quality of Howrah during 2010 (APRIL)				
Parameter	**Unit**	**Domjur, Howrah**	**Central Howrah (Induatrial)**	**Central Howrah (Residential)**
Total Coliform	in MPN/100 ml	nil	9	nil
Nitrate - N	in mg/l	0.08	0.07	0.08
pH		7.67	7.64	7.8
Fecal Coliform	in MPN/100 ml	nil	4	nil
Water Temp	in ˚C	29	28	27
BOD	in mg/l	0.4	1.4	2.8
Conductivity	in µS/cm	1156	1262	2160
Total Alkalinity	in mg/l	460	450	520
TFS	in mg/l	414	520	706
TDS	in mg/l	688	614	744
Ca as CaCo3	in mg/l	160	380	450
Hardness as CaCo3	in mg/l	240	560	660
Ammonia- N	in mg/l	BDL	BDL	BDL
Turbidity	in NTU	4.46	3.66	10.7
Sodium	in mg/l	203.8	78.2	308.4
Total Kjeldahl N	in mg/l	0.32	0.3	0.5
Chloride	in mg/l	149.95	154.95	549.83
Sulphate	in mg/l	15.44	9.83	24.41
COD	in mg/l	1.96	6	4
Mg as CaCo3	in mg/l	80	180	210
Boron	in mg/l	nil	nil	0.12
TSS	in mg/l	24	8	12
Phosphate	in mg/l	0.14	0.01	0.01
Fluoride	in mg/l	0.82	0.44	0.55
Potassium	in mg/l	2	5	5
Iron Total	in µg/l	0.09	0.11	0.34
Mercury	in µg/l	0.45	0.8	0.84
Zinc	in µg/l	BDL	BDL	136
Nickel	in µg/l	nil	nil	nil
Chromium Total	in µg/l	nil	nil	nil
Lead	in µg/l	3.95	3.32	nil
Copper	in µg/l	nil	nil	nil
Cadmium	in µg/l	nil	BDL	BDL
Arsenic	in µg/l	2.13	nil	nil

4.3 Solid Waste Generation and Management

4.3.1 Waste Classification and Quantification

4.3.1.1 Hazardous waste – Total waste For Jalan Complex is 1005.351 MT/year and at Bamungachi area is 5706.264 MT/year. The Galvanising, Zinc Processing, Secondary Lead Smelting, Vegetable Oil Processing & Refining units are main source of generation of Hazardous waste. All the units are under Authorisation Management of the Waste Management Cell, HO, WBPCB and Registered with State Haz. Waste Disposal Facility.

4.3.1.2 Bio-medical waste –

For Jalan Industrial Complex : No healthcare units inside the complex.

For Bamungachi Area : Total quantity is 1821 Kg/day. All the healthcare units is registered with common biomedical waste treatment and disposal facility.

4.3.1.3 Electronic waste – NA.

4.3.1.4 Municipal Solid waste / Domestic waste / Sludges from ETPs / CETPs /STPs and other industrial sources –

For Jalan Industrial Complex : No Domestic solid waste.

For Bamungachi Area : MSW is disposed through Howrah Municipal Corporation.

4.3.1.5 Plastic Waste – Plastic waste is recycled/reused in the process.

4.3.1.6 Quantification of wastes and relative contribution from different sources – Under consideration.

4.3.2 Identification of waste minimisation and waste exchange options – Under consideration.

4.3.3 Reduction / Reuse / Recovery / Recycle options in the co-processing of wastes – Under consideration

4.3.4 Infrastructural facilities – Common Hazardous Waste TSDF is already in place at Haldia. Common biomedical waste treatment and disposal facility exits at Belgachia.

5. PPP Model –

5.1 Identification of project proposals (for both the options i.e. technology intervention and infrastructure renewal) for implementation under the PPP mode under the Action Plan- Under consideration.

5.2 Identification of stakeholders / agencies to be involved and to evolve financial and managerial **mechanisms for implementation of PPP projects-** Municipal Corporation/Municipality, Industrial entrepreneur and WBPCB.

6. Other infrastructural Renewal Measures:

6.1 Green Belts – Area under cover to be increased further.
6.2 Development of Industrial Estate(s) – Under consideration.
6.3 Development / shifting of industries located in the non-industrial areas to the existing / new industrial estates – Action initiated and is under progress.

7. Specific Schemes:

7.1 GIS-GPS system for pollution sources monitoring – Not available.
7.2 Hydro-geological fracturing of water bodies rejuvenation - NA
7.3 In-situ remediation of sewage – To be taken as and when required.
7.4 Utilization of MSW inert by gas based brick kilns - NA
7.5 Co-processing of wastes in cement industries- one fly ash based cement grinding unit exists in the Jalan Industrial Complex .

8. Public Awareness and Training Programmes – Awareness and training programmes are being regularly conducted by the Board and local bodies.

9.Overall Impact of Installation/commissioning of pollution control equipments/measures on the CEPI score –Significant reduction is expected.

10. Assessment of Techno-economical feasibility of pollution control systems in clusters of small / medium scale industries – Specific action programmes taken for industry clusters.

11. Efforts shall be made to encourage use of Bio-compost and Bio-Fertilizer along with the chemical fertilizer in the state to minimize the unutilized chemical fertilizer run-off into the natural water resources from agriculture fields (through Govt. policy) – Under consideration

12. Summary of proposed action points:

12.1 Short Term Action Points (upto 1 year, including continuous Activities)

Sl. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time Limit	Cost	Remarks
2	Technological development of earthen pottery cluster so that emission can be	suitable funding to be made as because the units are	By June 2011	01 Crore	To be incurred by the concerned industry

Sl. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time Limit	Cost	Remarks
	arrested and treated	economically marginal in nature			
3	Rolling mills are to be encouraged to adopt coal-gas	Individual Industry	By June 2011	-------	To be incurred by the concerned industry

12.2 Long Term Action Points (more than 1 year)

Sl. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time Limit	Cost	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	By June 2012	1.5 Crore	Necessary funding may be granted through WBPCB
2	Installation of AAAQM at Jalan Industrial Complex	Industry Association & Industry	By June 2012	02 Crore	Necessary funding may be granted through WBPCB
3	Development of proper drainage facility in Jalan Complex	Industry Association & Industry	By June 2012	02 Crore	Necessary funding may be granted through WBPCB. The possibility of accessing Infrastructural Funding Assistance from GOI will be explored. Otherwise the cost will be

Sl. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders	Time Limit	Cost	Remarks
					borned by the Industry Association.
4	Development of roads in Jalan Industrial Complex	Industry Association & Industry	By June 2012	20 Crore	Necessary funding may be granted through WBPCB. The possibility of accessing Infrastructural Funding Assistance from GOI will be explored. Otherwise the cost will be borned by the Industry Association.
5	Embankment and desilting of effluent carrying canal at Jalan Industrial Complex	Industry Association & Industry	By June 2012	05 Crore	Necessary funding may be granted through WBPCB. The possibility of accessing Infrastructural Funding Assistance from GOI will be explored. Otherwise the cost will be borned by the Industry Association
6	Development of roads in Bamungachi area	HMC and Bally Municipality	By June 2012	10 Crore	-
7	Development of drainage system in Bamungachi area	HMC and Bally Municipality	By June 2012	02 Crore	-
8	Tree plantation of both the area	Social Forestry Division	By June 2012	01 Crore	-

FOR JALAN INDUSTRIAL COMPLEX-I

List of Highly Polluting Industries in Jalan Complex-I

Sl. No.	Name of Industry	
01	M/s.Ambica Dhatu	
02	M/s.Krishna Metal	
03	M/s.Saptarshi Cement	
04	M/s.Panchawati Metal Works	
05	M/s.Vinod Metal Industries	

List of Grossly Polluting Industries in Jalan Complex-I

Sl. No.	Name of Industry	
01	M/s.Jindal India Limited	
02	M/s.Skipper Steels Ltd	
03	M/s.Utkarsh Tube & Pipes Ltd.	

Red & Sp. Red Category

Sl. No.	***Name of the Units***
1.	Ambica Dhatu Private Limited
2.	Swastik Refinery (P) Ltd
3.	Prestige Poperties Pvt Ltd
4.	Paracoat Products Ltd
5.	Nilkrishna Tar Products
6.	Alladin
7.	Excel Engineering Works
8.	Indessa Gases Pvt Ltd
9.	Suyash Paints & Varnish Pvt Ltd
10.	Shri Balaji Chemical Industries
11.	Satyanaran Ispat (P) Ltd.
12.	Shri Bihariji Cold Rollers Pvt Ltd
13.	Vinraj Steels Pvt Ltd
14.	Vineet Oils Pvt Ltd
15.	Hazi Heritage
16.	A.M. Industries

Sl. No.	*Name of the Units*
17.	Rupa & Co.
18.	Hi-Tech Lubricants
19.	Ishan Resin & Paints Ltd
20.	Harihar Industries
21.	Jindal (India) Limited (Unit- 3)
22.	Choudhary Petro Carbon
23.	Ceramique Industries
24.	Eastern Alkatra MFG Pvt Ltd
25.	Emichevn Pvt Ltd
26.	Enders Cycle Pvt Ltd
27.	Aravali Trexim (Pvt) Ltd
28.	Baghya Sales Pvt Ltd
29.	Bansal Utkarsh Ltd
30.	Bansal Trading Co.
31.	Leader Impex Pvt Ltd
32.	Calcutta Industrial Corporation
33.	Shakti Industry
34.	A. B. Enterprise
35.	Bansal Poles Ltd
36.	Chirag Casting Pvt Ltd
37.	Ambica Chemical & Industrial Corporation (Unit -2)
38.	Nangalia Hydro Carbon Ltd..
39.	R.S. Oil Industries
40.	Kailashi Tar Pvt Ltd
41.	Jainco
42.	Rajsi Arts Pvt Ltd
43.	Excel Engineering Works
44.	Neptune Hydrocarbon Mfg Pvt. Ltd
45.	Arham Dyeing & Bleaching (P) Ltd
46.	Ramkrishna Galvanizing Works
47.	Vijit International Pvt Ltd
48.	Shri Vishnu Industries
49.	Alpha Industries
50.	Steel Processing
51.	Unique Galvanizing Works

Sl. No.	*Name of the Units*
52.	Calcutta Industrial Corporation
53.	Neha Galvanizer (India) Pvt Ltd
54.	Vinayak Oil & Fats Pvt Ltd
55.	Popular Galtrad Industries
56.	Devi Ispat Pvt Ltd
57.	Lalanidhi Bitumen Specialist Pvt Ltd
58.	Radha Electricals Pvt Ltd
59.	J.G. Chemicals (P) Ltd(Unit- 2)
60.	Shakti Industry
61.	L.G. Corporation
62.	Pressco Engineering (P) Ltd
63.	Ratnaka Resis Pvt Ltd
64.	B.S. Industries
65.	S. R. Texwash Pvt Ltd.
66.	Global Dried Flowers
67.	JG Chemicals Pvt Ltd (Unit- 2)
68.	R.D. Dyecheme Pvt Ltd
69.	Supreme Wood Products Pvt Ltd
70.	Kunj Auto Parts MFG Pvt Ltd
71.	Saptarshi Cement & Industries Ltd
72.	Inza Galvanizing Co.
73.	Shree Mahalaxmi Vinimay (P) Ltd
74.	J.D. Machineries
75.	F.M. Galvanizing Works
76.	Kiswok Industries
77.	Maa Bhagawati Metal Industries
78.	Panchawati Metal Work
79.	Jindal India Limited (Unit- 3)
80.	Skipper Steels Ltd.
81.	Utkarsh Tube & Pipes Ltd.
82.	Bhagawari Metal Industries
83.	Vinod Metal Industries
84.	Lords Chemical. (Unit- 1)
85.	S.S.L. Exports Ltd.
86.	Shree Ganesh Industries

FOR BAMUNGACHI AREA

List of Highly Polluting Industries in Bamungachhi Area

Sl. No.	Name of the Industry
01	M/s.Balaji Metal
02	M/s.Hindalco Industries Limited
03	M/s.Shakti Industries (P) Ltd.
04	M/s.Singh & Sons Manufacturer

List of Grossly Polluting Industries in Bamungachhi Area

Sl. No.	Name of the Industry
01	M/s.Asbesco India (P)Ltd.
02	M/s.Fine Galvanizing Works
03	M/s.Gowsia Galvanizing Works
04	M/s.Howrah Galvanizing Works
05	M/s.Jindal India Limited (Unit-2)
06	M/s.Matara Galvanizing & Engg
07	M/s.Supreme Galvanizing Works
08	M/s.Tijya Engineering Pvt. Ltd. (Unit-2)

Red & Sp. Red Category

Sl. No	***NAME OF INDUSTRY***
1.	HARZA & SONS
2.	H.S. FOUNDRY
3.	MA DURGA IRON WORKS.
4.	AGV INTERNATIONAL.
5.	ABBY IRON FOUNDRY
6.	ALLIED ENGINEERING WORKS
7.	SUPER IRON FOUNDRY
8.	SUJIT IRON FOUNDRY
9.	S.R. CASTING INDUSTRIES.
10.	SREEDHAR IRON FOUNDRY
11.	ESKAY INDUSTRIAL ENTERPRISE
12.	ASHIRWAD FOUNDRIES PVT. LTD. (UNIT - II)
13.	DAKSHINESWARI IRON FOUNDRY

Sl. No	*NAME OF INDUSTRY*
14.	NORTH INDIA WIRES LTD
15.	ANAND IRON FOUNDRY
16.	ASWINI KUMAR MONDAL
17.	KOOPER GREY CASTING & ENGINEERING WORKS
18.	KHAN BROTHERS
19.	MA-SITALA IRON MOULDING WORKS
20.	MA TARA FOUNDRY
21.	DESHPRAN FOUNDRY PRIVATE LTD
22.	GREAT EASTERN MACHINE HOUSE PVT. LTD.
23.	DIEM CASTINGS
24.	NATIONAL STORES SUPPLY AGENCY
25.	GUPTA IRON & STEEL CO.
26.	SREERAM IRON WORKS PVT. LTD.
27.	MAKALI ENGINEERING WORKS
28.	MAHALAKSHMI FOUNDRY WORKS
29.	DELTA ENTERPRISES
30.	KALI TARA IRON WORKS
31.	INTERNATIONAL STEEL CORPORATION
32.	LILUAH IRON WORKS PVT. LTD.
33.	K. M. IRON FOUNDRY
34.	KHAITAN IRON FOUNDRY (P) LTD.
35.	KALIMATA PRODUCTS (CASTING HOUSE)
36.	SANTI IRON & STEEL CO.
37.	GLOBAL CASTING
38.	EASTERN ENGINEERING CORPORATION
39.	GLOBE IRON FOUNDRY(UNIT- 1)
40.	GLOBE IRON FOUNDRY (UNIT - II)
41.	GREAT EASTERN FOUNDRY WORKS
42.	INTERNATIONAL IRON FOUNDRY
43.	AMBICA IRON & STEEL WORKS
44.	SUBRATA IRON FOUNDRY
45.	ORIENT IRON CASTING CO.
46.	JAI MATA DI CASTINGS PVT. LTD.
47.	HIMOL CASTINGS
48.	CLEVELAND ENGINEERING CORPORATION

Sl. No	*NAME OF INDUSTRY*
49.	CALCAST CORPORATION
50.	CHHARIA IRON INDUSTRIES
51.	KAMALA IRON FOUNDRY
52.	BHAGYADEVI FACTORY (FOUNDRY DIVISION)
53.	BABA LOKENATH IRON FOUNDRY
54.	BLUE STAR FOUNDRY
55.	BISWAKARMA IRON WORKS(FOUNDRY) PVT.LTD.
56.	BHARAT FUEL & CASTING CORPORATION
57.	B.R. IRON FOUNDRY (P) LTD.
58.	B.P. IRON CASTING COMPANY
59.	BERA CONTINENTAL CASTING
60.	B.N. PACHAL & SONS PVT. LTD.
61.	BHARAT IRON & STEEL INDUSTRIES
62.	SHIVA MELTERS PVT. LTD.
63.	MA TARA IRON WORKS
64.	MOTI LALL ROY
65.	BHARAT ENGINEERING CORPORATION
66.	SHREE JAGANNATH FERRO CASTING
67.	SHAKTI INDUSTRIES PVT. LTD.
68.	CALCUTTA IRON UDYOG
69.	EAST INDIA METAL COMPANY (P) LTD.
70.	CALCUTTA IRON FOUNDRY
71.	CARRIAGE & WAGON WORKSHOP
72.	BSP MULTIWORTH INDIA (P) LTD.
73.	INDIAN STANDARD CASTING CO. PVT. LTD.
74.	BAJAJ CHEMICAL INDUSTRIES
75.	SHREE UMA IRON FOUNDRY
76.	ROSE ISLAND ENGINEERING WORKS
77.	BINAY UDYOG PVT. LTD.
78.	THE SALKIA INDUSTRIAL WORKS
79.	SRI DURGA IRON WORKS
80.	R.S.I. LIMITED(UNIT- 1)
81.	BHARAT METAL CORPORATION
82.	SHREE BHAGWATI INDUSTRIES
83.	CARNATION INDUSTRIES LTD. (UNIT-1)

Sl. No	*NAME OF INDUSTRY*
84.	NIF ISPAT LIMITED (UNIT- 1)
85.	GEM CHEMICAL INDUSTRIES
86.	GREAT EASTERN CASTING (P) LTD.
87.	SHIWSHAKTI METAL WORKS
88.	MAA BHAGAWATI METAL INDUSTRIES
89.	VINOD METAL INDUSTRIES
90.	PANCHAWATI METAL WORKS
91.	KAMINI FERROUS LIMITED
92.	JYOTI TAR PRODUCTS PVT. LTD.
93.	J. K. UMBRELLA ACCESSORIES INDUSTRIES
94.	JUTEFELT (INDIA) PVT.LTD.
95.	JAJODIA IRON & STEEL CO. (P) LTD.
96.	IONIZED INDIA (UNIT- 2)
97.	INDUSTRIAL ASSOCIATES
98.	KITCHEN AID
99.	KRISHNA TECHNOCHEM PVT.LTD.
100.	K.R. OVERSEAS PVT. LTD.
101.	KAMALA ENTERPRISE
102.	KAUSHIK ENTERPRISE
103.	KUTIR UDYOG KENDRA (INDIA) LTD.
104.	LORD GANESH ENTERPRISE PVT.LTD.
105.	LAXMI ENGINEERING WORKS
106.	ARSEN & TOUBRO LIMITED(ECC DIVISION)
107.	LARSEN & TOUBRO LIMITED(ECC DIVISION)
108.	LORDS CHEMICALS LTD.(UNIT II)
109.	SREE KRISHNA ENGINEERING & GALVANIZING WORKS
110.	EVEREST GALVANIZING WORKS
111.	OM GALVANISING WORKS
112.	HOBB INTERNATIONAL PVT. LTD.
113.	UNIQUE GALVANIZING WORKS
114.	RAMKRISHNA GALVANIZING WORKS
115.	INZA GALVANIZING CO.
116.	ASBESCO (INDIA) PVT. LTD.
117.	STEEL & FENCE CORPORATION
118.	G.P. GALVANIZING WORKS.

Sl. No	*NAME OF INDUSTRY*
119.	BANIK METAL INDUSTRIES (P) LTD.
120.	C.M.C. MANUFACTURING CO. PVT. LTD.
121.	CITY OIL PRIVATE LIMITED
122.	CALCUTTA RUBBER MOULDING CO.
123.	CHOUDHARY PETRO CARBON
124.	C.D. POLYMERS PVT. LTD.
125.	CHANDIMATA METAL WORKS
126.	COOK -N- SERVE
127.	DAS FOOD PRODUCTS
128.	MANGAL CHANDI IRON FOUNDRY
129.	B.M.W. INDUSTRIES LTD.(UNIT- 5)
130.	HARIHAR INDUSTRIES
131.	BHARAT ROLL INDUSTRIES PVT.LTD.(UNIT- 3)
132.	KOTHARI PROCESSORS PVT. LTD.
133.	SHREE UMA FOUNDRIES PVT. LTD.
134.	THE CARNATION INDUSTRIES LTD.(UNIT - 2)
135.	MOON LIGHT GALVANIZING WORKS
136.	SRM CASTINGS PRIVATE LIMITED
137.	RATNAKA RESINS PRIVATE LIMITED
138.	AMARNATH DYEING & BLEACHING WORKS PVT.LTD.
139.	RATNAKA RESINS PRIVATE LIMITED
140.	SUN STEEL INDUSTRIES PVT.LTD
141.	JINDAL (INDIA) LIMITED (UNIT- 2)
142.	QUALITY PROCESSING
143.	SREERAM IRON WORKS PVT.LTD.
144.	MAKALI ENGINEERING WORKS
145.	SWASTIK REFINERY PVT. LTD.
146.	ESSENCIA BEVERAGES PVT. LTD.
147.	AJANTA STEEL PVT.LTD.
148.	NSI (INDIA) LIMITED
149.	STAR HARDCHROMIUMPLATING WORKS
150.	SONI ENGINEERING WORKS
151.	SHREE LAXMI METAL INDUSTRIES
152.	SREE KRISHNA GAS SERVICE
153.	SUMAN ENGINEERING & FORGING WORKS

Sl. No	*NAME OF INDUSTRY*
154.	SABNAM INDUSTRIES
155.	SANKAR IRON ENGINEERING WORKS PVT. LTD.
156.	SWASTIK RUBBER INDUSTRIES
157.	SHRI BADRINARAIN ALLOYS & STEELS LIMITED
158.	SWASTI CHEMICALS
159.	SREE VEGETABLE OIL PVT. LTD
160.	SBJ COLOUR SYNTHETICS PVT.LTD.
161.	SHRI DURGA INDUSTRIES
162.	SUPREME & COMPANY(Formerly: Supreme Exports)
163.	SUASION CONSTRUCTION COMPANY LTD.
164.	FORGINGS(INDIA) IRON & STEEL(P) LTD
165.	SINGH INDUSTRIAL WORKS
166.	ELLENBARRIE INDUSTRIAL GASES LTD.
167.	ETONE INDIA PVT. LTD.
168.	MADHUBATI PAPER PRIVATE LIMITED
169.	GRD PAPER INDUSTRIES PRIVATE LIMITED
170.	A.M. INDUSTRIES
171.	ANITA METAL WORKS
172.	AMIT PETRO PRODUCTS MFG. (P) LTD.
173.	A. DAMIANO & COMPANY
174.	BP PLY BOARD PVT. LTD.
175.	ASSOCIATED CHEMICAL INDUSTRIES
176.	BHARAT ENGINEERING WORKS
177.	SAMA ENGINEERING WORKS
178.	SIDDHESWARI COTTON MILLS PRIVATE LIMITED
179.	JAGDAMBA ISPAT & ENGINEERING WORKS
180.	GOVINDA PAINTS & CHEMICAL WORKS
181.	GEMUS ENGINEERING LIMITED
182.	GRAPHITE & MINERAL PRODUCTS
183.	ALFA ALUMINIUM PVT. LTD.
184.	VIKASH FORGE PVT. LTD.
185.	IMPERIAL TUBES PVT.LTD.
186.	ALLIED PIG IRON TRADING CO. PVT. LTD.
187.	SHELL BITUMEN INDIA PRIVATE LIMITED
188.	HARYANA PIGMENT & CHEMICAL INDUSTRIES

Sl. No	*NAME OF INDUSTRY*
189.	COKE MANUFACTURING COMPANY
190.	BANSAL UTKARSH LIMITED
191.	HADA INDUSTRIES
192.	VISAN AL-CAST PVT. LTD.
193.	FTC EXIM PVT.LTD.
194.	SHREERATH CHEMICALS (UNIT- 1)
195.	SHALIMAR STEEL WORKS PVT. LTD.
196.	PRECISION CASTINGS
197.	SUSHIL ENGINEERING WORKS
198.	DYECHEM PROCESS PVT. LTD.
199.	STAR GALVANIZING WORKS
200.	SANDEEP CASTINGS PVT. LTD.
201.	UNIVERSAL BITUMINOUS INDUSTRIES PVT. LTD.
202.	SHIVAM PETRO PRODUCTS PVT. LTD.
203.	B.S. INDUSTRIES
204.	SANJAY CASTING & ENGINEERING COMPANY
205.	VINAYAK OIL & FATS PVT. LTD.
206.	MAHESHWARI MINERAL INDUSTRIES
207.	SYLVAN CHEMICALS
208.	SIKHA LABEL CO.
209.	SYLVAN CHEMICALS
210.	BHARAT INDUSTRIES
211.	AMBICA JUTE MILLS LIMITED
212.	SKIPPER STEELS LTD
213.	KEJRIWAL CASTINGS
214.	MALSONS POLYMERS PVT. LTD.
215.	SURENDRA KUMAR JITENDRA KUMAR
216.	ALCON PETRO PRIVATE LIMITED
217.	JAGADHATRI IRON FOUNDRY
218.	ZENITH CASTING CORPORATIION
219.	VISHWARUPA STEEL PVT. LTD.
220.	CHOUDHURY INDUSTRIES
221.	SHREE BALAJI ENGINEERING
222.	B.S. TAR PVT. LTD.
223.	KOPELL GROUNDING SYSTEMS (P) LTD.

Sl. No	*NAME OF INDUSTRY*
224.	JALANIDHI BITUMEN SPECIALITIES PVT. LTD.
225.	A.C. GHOSH
226.	RASHI ISPAT PVT. LTD.
227.	STANDARD CASTINGS
228.	DEVI ISPAT PVT. LTD.
229.	GEL METALICS ENGINEERING
230.	VIKASH IRON & STEEL CO.
231.	VICTORY IRON WORKS LIMITED
232.	MA KALI GALVANIZING WORKS
233.	CHALANTIKA
234.	HIND SUTER SHELLAC PVT. LTD.
235.	SHREE GAJANAN WIRES PVT.LTD.
236.	SULEKHA GAS AGENCYS
237.	SHAIKH SONS & CO.
238.	THACKER DAIRY PRODUCTS PVT. LTD.
239.	JALAN HI-MECH LTD.
240.	ABDUL QAIYUM
241.	UNITED RUBBER INDUSTRIES
242.	UNITED ENGINEERING CO.
243.	UNITED BONE MILL
244.	S.K. ENTERPRISE
245.	SHREERATH CHEMICALS (UNIT- 2)
246.	B.M. INDUSTRIES
247.	UNIVERSAL FINE CHEM
248.	STANDARD GALVANIZER
249.	UPADHAYA VALVES MANUFACTURERS PVT. LTD.
250.	BAGCHI IRON FOUNDRY
251.	A.J. CAST ALLOYS PRIVATE LIMITED
252.	H.S. FOUNDRY (Unit - 1)
253.	INDESSA GASES PRIVATE LIMITED
254.	MODERN MALLEABLES LTD. (UNIT- II)
255.	SHIV FERRO ALLOYS INDUSTRIES
256.	BDJ GLASS INDUSTRIES PVT.LTD.
257.	SHYAM DYEING & PROCESSING WORKS
258.	NATIONAL GALVANIZING WORKS

Sl. No	*NAME OF INDUSTRY*
259.	RAMANAND RAJESH KUMAR
260.	TIDE WATER OIL CO. (INDIA) LTD.
261.	TIRUPATI THREADS PVT. LTD.
262.	RIDDHI SIDDHI UDYOG
263.	SANJEVANI GASES PRIVATE LIMITED
264.	SWASTIK METCAST PVT.LTD.
265.	SUMO METALIC PVT. LTD.
266.	MONDAL METAL WORKS
267.	ENGINEERING TRADE CENTRE (I) PVT.LTD.
268.	AMIT CASING
269.	UNIVERSAL FORGE
270.	MEGH IRON FOUNDRY (PVT) LTD.
271.	HYDRO CARBONS & CHEMICALS
272.	THE ATLANTIC OIL COMPANY PRIVATE LIMITED
273.	THE SUN ROLLONG MILLS PVT. LTD. (UNIT- 1)
274.	UCIC PRIVATE LIMITED
275.	SAGAR MERCHANDISE PVT.LTD.
276.	JAGADHATRI ELECTROPLATING
277.	GRIPWELL ENGINEERING CO. (P) LTD.
278.	PAMPAR OVENFRESH FOOD PVT. LTD.
279.	HOWRAH ENGINEERING PATTERN WORKS
280.	NIF ISPAT LIMITED (UNIT - 3)
281.	F. M. GALVANIZING WORKS
282.	TIRUPATI IRON FOUNDRY
283.	RASHTRAUDHYOG LIMITED
284.	MUNDHRA & CO.
285.	GANGA IRON & GALVANIZING WORKS LTD.
286.	HIND SILICATES PVT. LTD.
287.	TOOA METAL & PATTERN WORKS
288.	BALLY JUTE COMPANY LIMITED
289.	SONAL RUBBER INDUSTRIES
290.	VIJAY IRON FOUNDRY
291.	SINTEX INDUSTRIES LTD.
292.	CENTURY ALUMINIUM WORKS
293.	DEE GEE INDUSTRIES

Sl. No	*NAME OF INDUSTRY*
294.	GLOSTER JUTE MILLS LIMITED
295.	CALCUTTA FERROUS LIMITED
296.	STERLING BOLTS PVT. LTD.
297.	ZAID ZIPPERS PVT. LTD.
298.	SWAMIJI TRANSMISSION PVT. LTD.
299.	NAPASAR POLYMER PRIVATE LIMITED
300.	KAILASHI TAR PRIVATE LIMITED
301.	MA KANKALI SUPPLY AGENCY LTD.
302.	INDUSTRIAL CASTING CORPORATION
303.	M.H. IRON & STEEL WORKS
304.	SURENDRA NATH DAW & SON
305.	DHANG'S IRON FOUNDRY
306.	SHREE SHYAM IRON FOUNDRY
307.	VIJIT INTERNATIONAL PVT. LTD.
308.	SUPERFINE THREAD CO.
309.	BRIGHT RUBBER WORKS
310.	ARHAM DYEING & BLEACHING (P) LTD.
311.	S.M. INDUSTRIES
312.	IRON FOUNDERS & FABRICATORS (I) PVT. LTD.
313.	R.R. MANDHOGARIA IRON FOUNDRY
314.	N.C. GHOSHAL & IRON FOUNDRY
315.	KAPOOR CASTINGS CORPORATION
316.	SANBA INDUSTRIES
317.	SAMCO ENGINEERING CONCERN
318.	SHENTRACON STEEL PVT. LTD.
319.	LORDS CHEMICALS LTD.(UNIT- 1)
320.	INDUSTRIAL CASTING CORPORATION
321.	SHREE JHANNATH IRON FOUNDRY PVT. LTD.
322.	SHREE HANUMAN IRON WORKS
323.	SUJIT IRON FOUNDRY
324.	MA DURGA FOUNDRY
325.	PACHERIA CASTINGS (P) LTD.
326.	ABHISEK IRON FOUNDRY (P) LTD.
327.	SHITALA ENGINEERING CONCERN
328.	MAHASHAKTI FOUNDRY & ENGINEERING WORKS

Sl. No	*NAME OF INDUSTRY*
329.	SHIV DURGA IRON FOUNDRY
330.	MOHIT FOUNDRY AND ENGINEERING WORKS
331.	J.R. GALVANIZERS
332.	FINLAY INDUSTRIES (INDIA) PVT. LTD.
333.	STAR GALVANIZERS PRIVATE LIMITED
334.	SHYAM SUNDAR CASTING PVT. LTD.
335.	SOURABH CASTING
336.	KAJARIA FOUNDRY WORKS PVT. LTD.
337.	J.G.CHEMICALS (P) LTD.(UNIT- 2)
338.	ANNAPURNA IRON FOUNDRY
339.	KALIMATA INDUSTRIES
340.	S. C. GHOSAL & SON
341.	BENGAL FOUNDRY COMPANY
342.	U.L. IRON FOUNDRY
343.	SARDA INDUSTRIES
344.	SHIVA SHAKTI ENGINEERING WORKS
345.	BHARAT PETROLEUM CORPORATION LTD. (L.P.G. BOTTLING PLANT)
346.	P.K.L. LIMITED
347.	LUDLOW JUTE MILLS
348.	SAVI TREXIM PVT. LTD.
349.	ISHAN RESIN & PAINTS LTD.
350.	MINMAT FERRO ALLOYS PVT. LT
351.	SABITA PROCESSING
352.	ALOM EXTRUSIONS LIMITED
353.	SHIVA SHAKTI ENGINEERING WORKS
354.	GIRIRAJ GLASS INDUSTRIES
355.	K. L. PARUI IRON FOUNDRY
356.	DIEN CHEMICALS PVT. LTD.
357.	KALITARA METAL INDUSTRIES
358.	INDIAN OIL CORPORATION LIMITED(Pipelines Division)
359.	MATRIX IRON FOUNDRY
360.	SHRI VISHNU INDUSTRIES
361.	KAMALA METACHEM
362.	RUBBERTECH

Sl. No	*NAME OF INDUSTRY*
363.	A.D. ELECTRO - STEEL CO. PVT. LTD
364.	ASIT IRON FOUNDRY PVT. LTD.
365.	MATRIX MULTITECH PRIVATE LIMITED
366.	HIND ENGINEERING INDUSTRIES
367.	FERRO CASTING CONCERN
368.	SUJATA STEEL INDUSTRIES
369.	DOMJUR INDANE
370.	MAHALUXMI IRON FOUNDRY
371.	DEY'S IRON FOUNDRY
372.	EAST INDIA PAPER & BOARD MILLS
373.	AMBICA CHEMICAL & INDUSTRIAL CORPORATION. (UNIT -2)
374.	R.S. OIL INDUSTRIES
375.	P. R. INDUSTRIES
376.	SHIV SHAKTI IRON FOUNDRY
377.	SUNFLOWER INDUSTRIES
378.	INDIAN OIL CORPORATION LTD.(MD)
379.	SHREE BAIDYANATH IRON FOUNDRY
380.	ELECTRO COPPER & ALLOYS MFG. CO.
381.	PEPSICO INDIA HOLDINGS PRIVATE LIMITED (Frito Lay Division)
382.	NANGALIA HYDROCARBON LTD.
383.	A. R. ENGINEERING WORKS (UNIT- II)
384.	JAIN CO.(TRANSMISSION LIMITED)
385.	RAJSI ARTS PVT. LTD.
386.	K.M. GALVANIZER (INDIA) PVT. LTD.
387.	B.P. IRON CASTING COMPANY
388.	LAKSHMI PLACOATS
389.	KITCHEN CARE
390.	BENGAL IRON CORPORATION
391.	C.D. IRON INDUSTRIES
392.	PAYODHI FOODS PVT LTD
393.	CENOSPHERE INDIA PVT. LTD.
394.	DASHURATHI FOUNDRY WORKS PVT. LTD.
395.	HINDUSTHAN CASTUNG & ENGINEERING CO.

Sl. No	*NAME OF INDUSTRY*
396.	CAT's WHISKERS PVT. LTD.
397.	HOWRAH RUBBER WORKS
398.	PIONEER ABRASIVES PVT.LTD.
399.	GOLDEN METAL INDUSTRIES
400.	ORIENT STEEL & INDUSTRIES LTD.
401.	MA SITALA IRON FOUNDRY
402.	ELECHMECH INDUSTRIES
403.	AMIT BIOTECH
404.	M.K. IRON & STEEL WORKS
405.	BRIGHTMAN INDUSTRIES
406.	TIKMANY STEEL FORGING INDUSTRIES
407.	MADHOGARIA SCRAPS SUPPLY SYNDICATE (P) LTD.
408.	EASTERN METALLIZING LIMITED