ENVIRONMENTAL AUDIT REPORT [STATEMENT]

ON

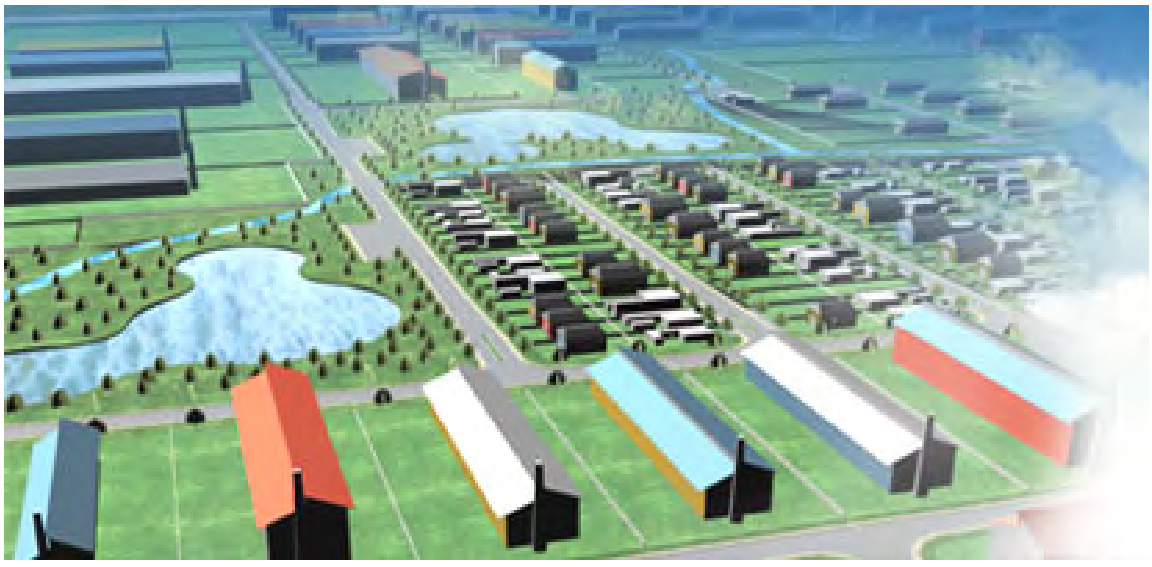
CONSTRUCTION WORK

[HALF YEARLY]
PERIOD

OCTOBER 2013 TO MARCH 2014

FOUNDRY PARK

HOULI BAGAN, RANIHATI – AMTA ROAD,
HOWRAH



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1.0 INTRODUCTION

The Environmental Statement (comprising Form – V) has been prepared by M/s. FOUNDRY CLUSTER DEVELOPMENT ASSOCIATION (FCDA), 4, India Exchange Place, 7th Floor, Kolkata – 700001 in association with M/s. Scientific Research Laboratory, an Environmental Analytical Laboratory, Recognised by the Ministry of Environment & Forest (MoEF), Govt. of India. The environmental impact data on the basis of the observed-data generated and checking at the site by the competent staff of Scientific Research Laboratory.

1.1 FOUNDRY CLUSTER DEVELOPMENT ASSOCIATION (FCDA) A PROFILE

Foundry industry in India, started around 1940 in Howrah and then later on spread to other states such as, Punjab, Gujarat, Maharashtra and Tamilnadu. At present around 500 units exist in West Bengal with an installed capacity of 1 Million tonnes. 95% of these units are concentrated in the district of Howrah forming an informal cluster.

Realizing the need for modernization, expansion and relocation of foundries at Howrah, the Government of West Bengal had suggested West Bengal Industrial Development Corporation (WBIDC) and **Indian Foundry Association** to set up a Foundry Park near the vicinity of the existing Howrah foundry cluster. Once it was principally accepted by all concerned, Govt. of West Bengal formulated and forwarded the Project under Industrial Infrastructure Upgradation Scheme **(IIUS)**, to the Department of Industrial Policy and Promotion **(DIPP)**, Ministry of Commerce & Industry, **GOI**.

Foundry Cluster Development Association (FCDA) is formed by the industry stakeholders, as required under the IIUS scheme of Government of India, to implement the Foundry Park Project. The Company was incorporated on 29.04.2005, having its registered office at Kolkata, India. The Executive Council currently consists of Chairman-WBIDC and industry stakeholders as Senior Vice Chairman, Vice Chairmen & members. The Executive Council also includes two nominees of Government of India.

1.2 OVERVIEW OF PROJECT

In view of reduction of environmental pollution a modern foundry park with a common effluent management system is being developed by the FCDA, where some foundries will be relocated from their existing location.

The Foundry Park will be developed on 924 acres of land on Ranihati-Amta Road, 5 kms off the National Highway 6, in Howrah (West Bengal). It is well connected also with NH-2, South-Eastern Railway and Kolkata & Haldia dock system. Connectivity with Kolkata is also easy and smooth through Kona Express way and Vidyasagar Setu (2nd Howrah Bridge).

The park will have all the essential infrastructure and modern facilities including:

- Adequate road network, Power and water distribution systems and drainage system.
- Modern Information, marketing and management upgradation center Common facilities including Tool room, testing laboratory and material handling equipment.
- Industrial Training Institute, Guesthouse, canteen and allied facilities. Utilities including Fire Station, bank counters, Post office etc.
- Landscaping, buffer zone of dense vegetation and water bodies.
- Within the park, one of its phases is also being planned as a Special Economic Zone.

It is expected that the Foundry park will house around 150 units with an expected annual output of 1/2 million tonnes in its first year of operation, which is expected to reach 1 million tonnes in the next five years.

The new park will accommodate the modernization, expansion and relocation program of foundries of Howrah in West Bengal and even from other parts of India through cluster approach, enabling them to capitalize on the increased demand in both the domestic and international market. The annual growth rate of foundry industry after relocation to the park is expected to be much higher than that it would realize in the existing set-up. Infrastructure and common facilities of international standards will enhance quality and productivity with reduced production costs and would thus enhance the competitiveness of the industry. The park will have provision and infrastructure for technology transfer, Research & Development and marketing set-up.

1.3 PRESENT STATUS OF THE PROJECT

According to the availability of Land construction work of a part of The Foundry Park project has been initiated in February 2009. After the acquisition of 328.66 acres land, presently the FCDA started the construction to accommodate 65 numbers of foundry units with the permission of West Bengal Pollution Control Board. Although the FCDA aimed to complete the construction work within March 2013 and to handover the individual unit holder. However, the construction work of the foundry park still not completed. Therefore, the FCDA applied for the enxtension of completion time and got extension upto 30th September 2015 from West Bengal Pollution Control Board.

FCDA already developed a greenbelt in the project area by plantation of over 20,000 nos. of various plants for environmental measures.

1.4 PRODUCTION CAPACITY

As per Consent to Establish by West Bengal Pollution Control Board (Memo No.: 602 – 2N – 162/2006 (E), Dated: 22.12.2008 total production capacity are 1313 ton/day by installing 65 nos. of foundry units (32 nos. of Induction furnace and 33 nos. of cupola furnace).

Whereas, the total production capacity of the project will be 5 lakh ton to 10 lakh ton per year by installing 150 nos. of foundry units and 40 nos. of allied units (core making, pattern making, fettling, painting, fabrication and machining shops, raw material banks weigh bridge, petrol pump etc.) Environmental Impact Assessment clearances from Ministry of Environment & Forest, New Delhi, vide File No.: 102 – 170/07/EPE, Dt.-14.11.2008.

1.5 ENVIRONMENT MANAGEMENT STRATEGY

To mitigate the impact of Industrial operations on the surrounding environment and to comply with the existing statutory legislation, the followings recommendations are put forward by FCDA:

- All The applicable environmental laws and regulations and to follow the relevant environmental guidelines and code of practices laid down by the concerned statutory services will be complied with.

- The necessary power to suitable members of staff will be delegated to oversee the environmental matters of the Company.
- The staff members assigned for environmental matters will be trained to such an extent that they could perform their environmental duties in a useful manner.
- To be keep abreast with the new laws and regulations as well as latest technologies on pollution prevention and control relevant to the industry as are being developed in the country and abroad.
- Research and Development to modify the existing processing technique and pollution control facilities to accommodate the special features of the latest technologies in the respective field with an aim to reduce / control environmental pollution.
- The manufacturing to be undertaken in such manner that it can reveal clearly the nature and extent of environmental impact caused by it to the environment.
- The effective procedures compatible to the available technology to prevent environmental degradation will be observed.
- Appropriate procedures to be observed for immediate actions in case of such incident, this, may lead to environmental pollution, thereby minimizing the environmental degradation.
- Store and handle hazardous chemicals / substances will be done in such manner that in event of any spillage or leakage the environmental impact will be minimal.
- Consumption of energy to be optimized.
- Natural resources will be conserved.
- Maximum utilization / recycling of wastewater and to recover useable materials from the wastes in techno-economic manner.
- Up-to-date all the relevant information relating to environment will be generated. Maintenance of ready record of all the data so that retrieval of all the relevant data will be possible at any point of time for necessary action.
- Housekeeping to be maintained as best possible in the industry.
- Internal audits to be conducted to demonstrate compliance with policy and with statutory regulations.
- Adequate arrangements are required for suppressing the noise generated from the Compressor unit

1.6 STATUTORY LEGISLATION

Submission of Environmental Audit Report

Every person carrying on an industry, operation or process requiring consent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) or under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) or both or authorization under the Hazardous Wastes (Management and Handling) Rules, 1989 issued under the Environment (Protection) Act, 1986 (29 of 1986) shall submit an environmental audit report for the financial year ending the 31st March in Form V to the concerned State Pollution Control Board on or before the 15th day of May every year, beginning 1993.]

Inserted by Rule 2 of the Environment (Protection) Second Amendment & Rules, 1992 wide G.S.R. 329(E), dated 12.03.1992.

2.0 RESULT OF ENVIRONMENTAL MONITORING

M/s FCDA entrusted the job of monitoring work all the environmental impacts i.e. Ambient Air Quality, Water Quality (Drinking & Surface) & Noise Level Monitoring etc. (Half yearly basis) as per statutory norms to M/s Scientific Research Laboratory, 90 Lake East 4th Road, Santoshpur, Jadavpur, Kolkata – 700 075, Recognised by the Ministry of Environment & Forest (MoEF), Govt. of India.

2.0.1 RESULT OF AIR QUALITY MONITORING

Monitoring of air emissions required as per the consent to operate directed by the West Bengal Pollution Control Board. But production is not yet started; so only Ambient Air Quality monitoring was done and the report is given in statement No. 1, which was found that the results of all the parameters were within the permissible limit. Compilation copies of Ambient Air Quality report are presented in **Annexure: I – 1/3, Annexure: I – 2/3 & Annexure: I – 3/3.**

2.0.2 RESULT OF DRINKING WATER QUALITY MONITORING

The source of Drinking water is deep bore well and supplied through the Aquaguard. Drinking water analysis report is given statement no. 2. Drinking water analysis results are confirming the norms of IS 10500 (1991). Compilation copies of drinking water report are presented in **Annexure: II – 1/3, Annexure: II – 2/3 & Annexure: II – 3/3**.

2.0.3 RESULT OF SURFACE WATER QUALITY MONITORING

Surface water Quality monitoring report is given statement No. 3, which reveals that the results of all the parameters were within the permissible limit. Compilation copies of Surface water report are presented in **Annexure: III – 1/3**, **Annexure: III – 2/3 & Annexure: III – 3/3**.

2.0.4 RESULT OF NOISE QUALITY MONITORING

The chance of Noise Pollution will be started in foundry units during the production work, but presently production has not yet started; only the construction work is in progress. The construction does not require deep-foundation for multistoried building, so no scope of creating any loud hammering-noise. The ambient noise level monitoring report is given statement no. 4, which reveals that the results were within the permissible limit. Compilation copies of noise level monitoring report are presented in **Annexure: IV – 1/1**.

STATEMENT – 1

REPORT OF AMBIENT AIR QUALITY

SL. NO.	PARAMETERS	UNIT	RESULTS		
	Sampling Location	--	**Open Space Near WW-I**	**Open Space Near WW - II**	**Open Space Near Projects Site Office.**
	Date of Monitoring	--	23.01.2014	23.01.2014	24.01.2014
01.	PM_{10}	$\mu g/m^3$	85.62	86.24	79.58
02.	$PM_{2.5}$	$\mu g/m^3$	46.17	49.86	41.33
03.	Sulphur dioxide (SO_2)	$\mu g/m^3$	8.97	9.50	9.57
04.	Nitrogen Oxides (NO_2)	$\mu g/m^3$	56.90	55.47	55.36
05.	Ozone (O_3)	$\mu g/m^3$	71.21	73.76	65.61
06.	Ammonia (NH_3)	$\mu g/m^3$	35.45	35.16	36.12
07.	Lead (Pb)	$\mu g/m^3$	0.13	0.15	0.11
08.	Benzene (C_6H_6)	$\mu g/m^3$	1.44	1.64	1.55
09.	Arsenic (As)	ng/m^3	3.73	4.45	3.43
10.	Benzo(a)Pyrene (BaP)	ng/m^3	0.89	0.76	0.61
11.	Nickel (Ni)	ng/m^3	13.40	14.79	10.80
12.	Carbon monoxide (CO)	mg/m^3	0.568	0.496	0.462

NOTE: ***PM_{10} , $PM_{2.5}$ &*** *Carbon monoxide (CO)* ***sampling was carried out for 8hours.***

STATEMENT – 2

REPORT OF DRINKING WATER QUALITY

Date of Sampling: 24.01.2014

Sl. No.	Characteristics / Location	Results		
		Deep Tubewell Water Near Project Site Office Main Gate	Office Pantry Basis Tap Water	Deep Tubewell Water Near Howli Bagan Sub Station
Organoleptic and Physical Parameters (Foreword and Clause 4)Colour, Hazen Units, Max				
i)	Colour, Hazen Units, Max.	<5	<5	<5
ii)	Odour	Agreeable	Agreeable	Agreeable
iii)	pH Value	7.18	7.64	7.22
iv)	Taste	Agreeable	Agreeable	Agreeable
v)	Turbidity, NTU, Max.	<1	<1	<1
vi)	Total Dissolved Solids, mg/L, Max.	640.0	320.0	440.0
General Parameters Concerning Substances Undesirable in Excessive Amounts (Foreword and Clause 4)				
i)	Calcium (as Ca), mg/L, Max	46.7	51.3	48.2
ii)	Chloride (as Cl), mg/L, Max.	209.3	49.0	77.3
iii)	Copper (as Cu), mg/L, Max.	<0.025	<0.025	<0.025
iv)	Fluoride (as F), mg/L, Max	0.46	0.18	0.53
v)	Iron (as Fe), mg/L, Max.	0.16	0.10	0.23
vi)	Magnesium (as Mg), mg/L, Max	20.3	17.4	24.5
vii)	Manganese (as Mn), mg/L, Max.	0.026	0.062	0.032
viii)	Mineral oil, mg/L, Max	<1	<1	<1
ix)	Nitrate (as NO_3), mg/L, Max.	<0.5	0.7	<0.5
x)	Sulphate (as SO_4), mg/L, Max.	7.5	<2	4.8
xi)	Total Alkalinity ,as Calcium Carbonate, mg/L, Max	328.9	253.3	355.3
xii)	Total Hardness (as $CaCO_3$), mg/L, Max.	199.8	199.8	221.2
xiii)	Zinc (as Zn), mg/L, Max	0.036	0.091	0.058
Parameters Concerning Toxic Substances (Foreword and Clause 4)				
i)	Cadmium (as Cd), mg/L, Max	<0.003	<0.003	<0.003
ii)	Lead (as Pb), mg/L, Max	0.016	0.031	0.024
iii)	Mercury (as Hg), mg/L, Max	<0.001	<0.001	<0.001
iv)	Total Arsenic (as As), mg/L, Max	<0.01	<0.01	<0.01
v)	Chromium (as Cr^{6+}), mg/L, Max	<0.01	<0.01	<0.01
Bacteriological Quality (Clause 4.1.1)				
i)	Total Coliform Count, MPN/100 mL	16	12	>23
ii)	Fecal Coliform, MPN/100 mL	Absent	Absent	2.2

STATEMENT – 3

REPORT OF SURFACE WATER QUALITY

Date of Sampling: 24.01.2014

Sl. No.	Parameter / Location	Unit	Results		
	Location	--	Calvert No-1 (Canal Water) , Main Nalah	Near Calvert (Canal Water), Small Nalah	Water Body Pond Water
1.	pH	--	7.94	7.53	7.45
2.	Total Suspended Solids	mg/L	11.8	17.1	14.6
3.	Dissolved Oxygen (as O_2)	mg/L	7.2	7.4	6.6
4.	Chemical Oxygen Demand	mg/L	13.0	7.3	20.0
5.	Biochemical Oxygen Demand, 3 Days at 27ºC	mg/L	5.2	3.4	7.8
6.	Oil & Grease(Hexane Extract)	mg/L	<5.00	<5.00	<5.00
7.	Iron (as Fe)	mg/L	0.42	0.11	0.67
8.	Ammonia- Nitrogen (as NH_3N)	mg/L	0.41	0.34	0.12
9.	Phenolic Compounds (as C_6H_5OH)	mg/L	<0.002	<0.002	<0.002

STATEMENT – 4

REPORT OF NOISE LEVEL MONITORING

PARAMETER	UNIT	RESULTS					
Location	**--**	**Near Main Gate**	**CETP-R-O-3**	**WW - II**	**Project Site Office**	**Road Junction of R-01 & R-17**	**Road Junction of R-01 & R-03**
Date of Monitoring	**--**	24.01.2014	24.01.2014	24.01.2014	24.01.2014	24.01.2014	24.01.2014
$L_{max.}$	**dB(A)**	58.7	57.7	50.7	49.8	54.9	54.8
$L_{min.}$	**dB(A)**	52.6	50.2	42.5	47.4	51.5	51.7
Equivalent Noise Intensity Level (Leq)	**dB(A)**	53.91	52.16	45.78	45.66	50.47	50.53