

**MONITORING REPORT
PART-I
DATA SHEET**

F.No

1.	Project / Industry Type	Fertilizer Manufacturing CPSU												
2.	Name of the Project / Industry	Namrup Stage III of BVFC Ltd.												
3.	Clearance letter (s)/OM No and date	J.110011/8/88-IA(II) dated 13 th June,1989.												
4.	Locations : a) District b) State c) Latitudes/Longitudes	Dibrugarh Assam 27 ^o 10'N / 95 ^o 21'30"E												
5.	Address of Correspondence: a) Address of concerned General Manager (with Pin Code & Telephone / FAX No) b) Address of Chief Executive (With Pin Code and Telephone/FAX No)	Shri S Sarkar. Dy. General Manager (TS), BVFCL, Namrup 786623 Phone No : 0374 - 2500240 FAX No : 0374 - 2502317 Mr. A. K. Ghosh Chairman & Managing Director, BVFCL, Namrup PIN 786 623 Phone No : +919435139981 : 0374-2500524												
6.(a)	Salient Features : i) Capacity of Plants ii) Date of Commercial Prod. iii) Investment iv) Raw Material and Utilities v) Sources of Raw Material and Utilities A) Natural Gas B) Water vi) Plant Design. and Engineered A) Ammonia B) Urea C) Captive Power vii) Manpower Planned	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;"><u>Original</u> (MTPD)</th> <th style="width: 20%; text-align: center;"><u>Revamp</u> (MTPD)</th> </tr> </thead> <tbody> <tr> <td>Ammonia</td> <td style="text-align: center;">- 600 MTD</td> <td style="text-align: center;">558</td> </tr> <tr> <td>Urea</td> <td style="text-align: center;">- 1167 MTD</td> <td style="text-align: center;">900</td> </tr> <tr> <td>C.P.P.</td> <td style="text-align: center;">- 15 x 2 MW</td> <td></td> </tr> </tbody> </table> <p>(with steam generation facilities from waste heat).</p> <p>w.e.f. 1.10.1987. 285.55 Crores (F.E. 58.67 Crores) Natural gas : 1.142 MMSCMD Power : 12 MW Water : 10 MGD</p> <p>M/s. OIL , Duliajan</p> <p>From nearby Dilli River.</p> <p>M/s.PDIL & in collaboration with M/s. Halder Topsoe of Denmark for Reformation & Synthesis Sections</p> <p>M/s. PDIL. M/s.Turbotechnica, Italy. 1031</p>		<u>Original</u> (MTPD)	<u>Revamp</u> (MTPD)	Ammonia	- 600 MTD	558	Urea	- 1167 MTD	900	C.P.P.	- 15 x 2 MW	
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6. (b) Salient Features of the environmental management plan:

As far as environment management plan included in the Project Cost Estimate is concerned, an outlay of Rs.553.60 lakhs was earmarked out of total of Rs. 300.95 crores. Apart from this, there were built in Pollution Control Measures like provision of thermal hydrolyser-cum-stripper system as an integral part of Urea plant-III.

All the envisaged pollution control facilities had been built up. Under the revamp scheme for pollution control measures, comprehensive polymer based cooling water treatment has been followed.

The urea bearing and non-urea bearing effluents are segregated at generation points and are collected in separate overground/underground tanks/ pits.

The urea bearing effluents are being treated in the existing hydrolyser stripper and recovered vapour is being reused in the process. Earlier storage capacity of 500M³ has been augmented by another tank of 500 M³ capacity.

As regards the non-urea bearing ammonical effluents these are being treated in a steam stripper, before being discharged into the drain. M/s. Dorr-Oliver has done the mechanical erection of ammoniacal effluent treatment schemes and the same was commissioned in the month of March 2007 which always remains in line.

BVFCL will endeavor to maintain quality of discharged effluent within the permissible limit.

7. Financial Details: -

- (a) Project Cost as originally planned and subsequently revised estimates and the years of price reference –
- | | |
|--|-------------------|
| As per Techno-economic Feasibility Report (TEFR) On (01.04.1978) | Rs. 168.43 Crores |
| As per Detailed Project Report on (01.04.1981) | Rs. 238.74 Crores |
| As per Revised Cost Estimate on (01.04.1987) | Rs. 300.95 Crores |
- (b) Allocations made for environmental management plan with item wise and year-wise break-up.
- | | |
|--|------------------|
| As per Techno-economic Feasibility Report (TEFR) On (01.04.1978) | Not Specified |
| As per Detailed Project Report on (01.04.1981) | Rs. 254.55 Lakhs |
| As per Revised Cost Estimate on (01.04.1987) | Rs. 553.60 Lakhs |
- (c) Cost Benefit ratio/internal rate of return and the year of assessment - IRR=17.41% (year 1987)
- (d) Whether (c) includes the cost of environmental Management as shown in (b) above - YES
- (e) Actual expenditure incurred on the Project so far - Rs. 285.55 crores.
- (f) Actual expenditure incurred on Environmental management plans so far - Included in the expenditure of main plants
-

8. Status of construction/project:-

- (a) Date of commencement (actual and / or planned) - Zero date: November, 1979.
- (b) Date of completion commercial production.) - 1.10.1987 (Date of achieving (actual and/or planned))

PART-II

Description Report on status of compliance to conditions of environmental clearance and environmental management.

1. Clearance letter/OM No and date: J-11011/8/88-IA(II) , 13th June,1989.

A) Compliance to conditions of environmental clearance for the period from October 2019 to March 2020 is reported below:

i) The Project proponent must submit to this Ministry a Comprehensive Environmental Impact Assessment Report incorporating one years data within 18 months for scrutiny and approval.

Comprehensive Environment Impact Assessment (EIA) prepared by M/s.PDIL was submitted to Ministry of Environment & Forests in the 1st quarter of 1991. The same was found to have some deficiencies by the Ministry. Later annexures covering the deficiencies were submitted.

ii) The project authority must adhere to the stipulation made by Assam State Pollution Control Board.

As per Consent to Operate issued by Pollution Control Board, Assam, NAAQS and MINAS for liquid effluents are to be maintained. 'As a measure of abundant caution, Comprehensive Antipollution Measures were implemented during last revamp of plants. When the plants are in continuous operation then all the parameters of MINAS are generally adhered to. But in case of tripping of the plants, pH and ammoniacal nitrogen content in final effluent becomes slightly high. To run the plant on steady basis, additional investments are being done to replace/renovate problematic equipments.

iii) The liquid effluent generated within the various process operations will have to be recycled to the maximum possible extent either as a process water for afforestation within the plant premise. Liquid effluents discharged from the plant premises should strictly conform to MINAS or any stringent standards prescribed by the Central/State PCB from time to time in the interest of environmental protection.

The liquid effluents generated within the various process operations are recycled after treatment to the maximum possible extent either as process water or for afforestation within the plant premises. Liquid effluent discharged from the plant premises generally strictly conform to MINAS or any stringent standard prescribed by the Central / State Pollution Control Board from time to time in the interest of environmental protection.

iv) The emission from various process units should conform to the standards prescribed by the Central / State Pollution Control Board. At no time the emission levels should go beyond the stipulated standards, in the event of failures of any pollution control system adopted by the unit, the respective units shall be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency.

The emission from various process units conform to the standards prescribed by the Central/ State Pollution Control Board. Generally at no time the emission levels go beyond the stipulated standards, in the event of failures of any pollution control system adopted by the unit, the respective units is put out of operation immediately & not restarted until the control systems are rectified to achieve the desired efficiency.

v) ***The urea dust emissions from prilling towers will conform to the standards prescribe for urea dust.***

The equipments procured for periodical monitoring of Urea dust from prilling towers are used to take periodic sample from N-II and N-III Prilling towers, which are found to be within permissible limit. The same was also reported to APCB personnel and no adverse reports have been received.

vi) ***The project authority should prepare a plan for implementation of disposal of solid wastes generated during the various process operations or in the treatment plant provided. The plan for disposal should be submitted to the competent authority for scrutiny and for approval by this ministry within six months.***

The solid wastes generated in the plants are less as the plants are based on natural gas as the raw material. The solid waste generation and plan of disposal are as follows:

- (a) Solid waste consisting of sludge from the Water Treatment plant is pumped to settling tank where the suspended solids settle down and the final effluent containing less than 100 mg/litre of suspended solids over-flows to the effluent channel leading to the Dilli River. The reclaimed sludge is used for filling up of low-lying areas in the factory, as it is harmless material. However, sludge settlement gets effected during monsoon and rainy days due to very high turbidity of upstream river water upto 4000 mg/litre and final discharge to river reflects the same to some extent. In such conditions also BVFCL discharge into the river does not add to high turbidity of river water which remains very high during such periods.
- (b) Spent Catalysts from Ammonia plant are stored temporarily in sealed metallic containers in the covered area meant for the purpose for disposal by sale. Spent catalysts are sold to CPCB authorized recyclers only.
- (c) Authorization for handling and storage of Hazardous Waste was granted by APCB vide no. WB/OTWA /HW-43/04 -05/54/681 dated 26.06.14 for a period of 5 years. Sub soil water samples near hazardous waste storages are analysed from time to time for monitoring of any adverse affect on sub soil water. No adverse effect on sub soil water has been noticed so far. Analysis reports are intimated regularly to Pollution Control Board.

vii) ***A minimum of five air quality monitoring stations should be set up at different locations of the plant and in the nearby areas of the plant & the air quality should be monitor as per the standard procedure on a weekly interval basis. The recorded data should be furnished to the state pollution control board once in three months & to this ministry half yearly.***

Two fixed stations have been installed inside the factory premises for ambient air monitoring which are equipped with highly accurate computerized instruments. Two other locations in the residential area are regularly monitored with the help of a Mobile Monitoring Van equipped with all necessary computerized instruments. Another location outside the factory premises could not be covered because of bad road condition and problem in availability of power, security problem etc. Results are reported to statutory authorities. APCB personnel themselves are also periodically monitoring ambient air quality both inside and outside the factory and nothing adverse has been intimated to us.

viii) ***All stacks of the plant should be provided with automatic stack monitoring equipment and stack emissions level will be recorded and should be furnished to the State Pollution Control Board once in three months and to this ministry half yearly.***

The automatic stack monitoring system were provided during revamp of the plant in all the major stacks of N-II and N-III covering O₂, CO, NO_x & SO₂ and the on line stack analyzer for Primary Reformer and Auxiliary Boiler in Ammonia-III plant for monitoring of O₂, CO, NO_x & SO₂ were put in line on 4.12.09 and working properly. Online stack analyzer for Primary Reformer and Auxiliary Boiler in Ammonia-II plant for monitoring of O₂, CO, NO_x & SO₂ were put in line in April 2012 and its also working properly.

- ix) The project proponent will established adequate number of water quality monitoring station in consultation with State Pollution Control Board and the monitor data should be furnished once in three months to the state pollution control board and to this ministry half yearly.**

Adequate number of water quality monitoring stations for water system has been identified and are in operation. The monitored data are being furnished to State Pollution Control Board on fortnightly/quarterly basis and to the Central Pollution Control Board on quarterly basis.

- x) A disaster management plan duly approved by the nodal agency should be submitted within six months.**

The Disaster Management Plan is periodically updated and submitted to all statutory authorities.

- xi) Stack height should not be changed without the approval of competent authority.**

The stack heights are adequate as per relevant stipulations and heights of these stacks are not required to be changed.

- xii) An implementation schedule for renovation and modernization of the plan along with implementation schedule for installation of pollution control equipments should be submitted to this ministry for security and approval.**

The Namrup-III plants are in commercial production since 1.10.1987 and revamping/renovation of the plants were done with zero date in 1998. Renovations of trouble prone areas have been taken up with a view to obtain sustained production by taking care of problematic areas / equipments and machineries. In Namrup-III the following major items among others, have been revamped.

- (a) 1st stage decomposer in Urea plant which was failing frequently and resulting in repeated plant breakdown. The same has since been replaced.
- (b) One Centrifugal type Carbamate charge pump with drive motor against existing reciprocating pumps, which are prone to problems including that of pollution, has been installed and is in operation.
- (c) Installation of an additional Carbon Di-Oxide Charge Compressor of proven design with drive motor which has been commissioned and is under operation.

After revamp, the improved health of the plants itself and consequent lesser numbers of interruptions has resulted in drastic reduction of pollution problems. M/s. PDIL was engaged as the principal contractor with single point responsibility for the revamp project. Ammoniacal effluent treatment scheme has been commissioned in March 2007 and since then it is in line.

- xiii) All vacant areas under the control of the company which is not being used for plant utilities should be afforested and funds for this purpose should be suitably provided.**

Tree plantation programme has been taken up in big way to diminish erosion of river bank.

- xiv) The project authority will form a separate environmental management cell with suitably qualified personnel to carry out various functions related to environmental management under the control of a senior technical person who will report to the head of the organization.**

An Apex Committee was constituted to oversee environment-related matters and to ensure compliance of statutory stipulations.

- xv) Financial provision made for implementation of all the condition stipule herein should be not diverted for any other purpose.**

Funds allocated for environmental management and trees plantation are not diverted for other purposes.

WATER POLLUTION ANALYSIS REPORT (AVERAGE DATA)
(Applicable to Straight Nitrogenous and Complex (NPK) Fertilizer Industries)

Name of Industry:- Brahmaputra Valley Fertilizer Corporation Limited, Namrup.
Date of Commercial Production:- October 1987 in Namrup-III

1. Liquid Effluent – After Final Treatment of Effluents:
a) Location of Sampling: Final Treated Effluent going out of the factory.
b) Sampling and Analysis done by: Industry.

(Pollutants are in mg/liter except pH)

Month and Year	Ammonical Nitrogen	Hexavalent Chromium	Arsenic as As.	pH
Oct'19	25.00	NT	NT	7.75
Nov'19	12.00	NT	NT	7.40
Dec'19	20.00	NT	NT	7.55
Jan'20	15.00	NT	NT	7.62
Feb'20	12.00	NT	NT	7.51
Mar'20	8.00	NT	NT	7.58

AMBIENT AIR ANALYSIS REPORT
(Concentration of Pollutants is in Microgram/M³)
Period: April 2019 to September 2019

Pollutant Concentration µg/M³

Date	Duration (hrs.)	Location	SO ₂	NOx as NO ₂	PM ₁₀	PM _{2.5}
Average Norm (max)→	24	As per NAQMS	80	80	100	60
01.10.19	24	Station - 2	3.07	7.19	28.94	20.76
01.10.19	24	Gandhi Maidan	1.04	3.12	16.12	
02.10.19	24	Station - 2	2.90	7.35	28.92	
02.10.19	24	Kendriya Vidyalaya	1.11	3.19	14.32	
11.10.19	24	Station - 2	4.19	7.82	35.82	
11.10.19	24	Gandhi Maidan	1.35	5.64	27.40	
12.10.19	24	Station - 2	4.10	8.02	37.99	
12.10.19	24	Kendriya Vidyalaya	1.32	6.13	28.84	
22.10.19	24	Station - 2	4.94	7.93	34.07	
22.10.19	24	Gandhi Maidan	1.25	5.81	28.06	
23.10.19	24	Station - 2	4.71	7.53	24.99	
23.10.19	24	Kendriya Vidyalaya	1.10	5.08	19.46	
04.11.19	24	Station - 2	5.88	8.44	39.54	24.98
04.11.19	24	Gandhi Maidan	2.44	6.19	33.18	
05.11.19	24	Station - 2	5.97	8.59	38.74	
05.11.19	24	Kendriya Vidyalaya	2.23	6.13	31.62	
13.11.19	24	Station - 2	6.75	10.90	53.19	
13.11.19	24	Gandhi Maidan	2.70	7.01	47.29	
14.11.19	24	Station - 2	6.84	11.23	49.14	
14.11.19	24	Kendriya Vidyalaya	2.71	7.22	43.65	
25.11.19	24	Station - 2	8.03	12.29	61.66	
25.11.19	24	Gandhi Maidan	3.60	8.10	49.71	
26.11.19	24	Station - 2	7.64	12.27	64.01	
26.11.19	24	Kendriya Vidyalaya	3.70	7.96	46.88	
04.12.19	24	Station - 2	7.99	11.77	60.08	24.90
04.12.19	24	Gandhi Maidan	3.05	5.94	49.08	
05.12.19	24	Station - 2	8.08	12.13	58.36	
05.12.19	24	Kendriya Vidyalaya	2.80	5.78	43.32	
16.12.19	24	Station - 2	3.07	4.04	39.76	
16.12.19	24	Gandhi Maidan	1.06	2.01	42.94	
17.12.19	24	Station - 2	3.05	3.91	37.47	
17.12.19	24	Kendriya Vidyalaya	1.03	1.85	39.85	
26.12.19	24	Station - 2	5.45	9.98	49.20	
26.12.19	24	Gandhi Maidan	2.06	6.99	42.13	
27.12.19	24	Station - 2	5.61	10.42	45.68	
27.12.19	24	Kendriya Vidyalaya	3.70	7.96	46.88	
02.01.20	24	Station - 2	5.02	10.60	51.12	28.95
02.01.20	24	Gandhi Maidan	2.00	5.02	41.64	
03.01.20	24	Station - 2	4.44	9.44	40.34	
03.01.20	24	Kendriya Vidyalaya	1.52	3.52	29.31	
13.01.20	24	Station - 2	4.06	4.03	42.99	
13.01.20	24	Gandhi Maidan	0.97	3.10	38.95	
14.01.20	24	Station - 2	4.07	3.93	40.26	
14.01.20	24	Kendriya Vidyalaya	0.80	2.97	38.24	
27.01.20	24	Station - 2	6.56	11.95	55.74	
27.01.20	24	Gandhi Maidan	1.82	7.19	50.90	
28.01.20	24	Station - 2	7.14	11.76	56.49	
28.01.20	24	Kendriya Vidyalaya	1.69	6.59	48.22	

05.02.20	24	Station - 2	7.88	12.08	61.89	29.07	
05.02.20	24	Gandhi Maidan	2.47	7.04	56.34		
06.02.20	24	Station - 2	8.00	12.15	63.34		
06.02.20	24	Kendriya Vidyalaya	2.20	6.70	47.78		
12.02.20	24	Station - 2	7.10	11.47	65.98		
12.02.20	24	Gandhi Maidan	2.68	6.85	51.35		
13.02.20	24	Station - 2	7.09	11.71	62.34		
13.02.20	24	Kendriya Vidyalaya	2.67	6.92	49.14		
26.02.20	24	Station - 2	6.64	11.47	61.07		
26.02.20	24	Gandhi Maidan	1.69	6.71	48.13		
27.02.20	24	Station - 2	7.07	11.75	67.85		
27.02.20	24	Kendriya Vidyalaya	1.58	6.41	44.23		
04.03.20	24	Station - 2	6.99	12.46	63.35		24.03
04.03.20	24	Gandhi Maidan	2.05	6.91	54.37		
05.03.20	24	Station - 2	7.16	12.52	64.00		
05.03.20	24	Kendriya Vidyalaya	1.83	6.75	47.49		
17.03.20	24	Station - 2	3.24	4.13	45.13		
17.03.20	24	Gandhi Maidan	1.05	3.06	46.97		
18.03.20	24	Station - 2	3.25	3.98	43.80		
18.03.20	24	Kendriya Vidyalaya	0.99	2.99	44.35		

Annexure-I

1. Description of Hazardous Wastes (As on 31.03.2020)

<i>Physical form with description</i>	<i>Chemical form</i>	<i>Total volume and weight (approx.)</i>	
A. Metal Wastes – Spent catalysts	Contains CuO, ZnO , NiO , Cr ₂ O ₃	7250 Kg	
	HT Catalyst		7250 Kg
	LT Catalyst		Nil
	PR/SR Catalyst		Nil
	Methanation Catalyst		Nil
B. Chromate Sludge	Cr ₂ O ₃	40929.7 Kg	
C. Arsenic Sludge	Contains As ₂ O ₃ & As ₂ O ₅ and Calcium arsenate along with ceramic saddles and containers & liners.	850 M ³	
D. Used Oil	Used lube oil of different varieties	35700Ltr.	
E. Waste Oil	Natural Gas condensate and crude oil	NIL	

2. Details of disposal, if any:

Name & Address of the Facility	Type of Hazardous Waste recycled	Authorized recycling/ utilization/ Co-processing capacity (MTA)	Quantity Recycled/ Utilized/ Co-processed (MT)
M/S Arham Industries	Spent catalysts	F16(CM452)/RPCB/HAZ/BHARATPUR/384/1331 DT.18.12.15	215.12 MT (from 02.01.2020 to 14.02.2020)