Project Name: 525 TPD Methanol Plant by revamping Of Existing 450 TPD Ammonia-1 Plant at Fertilizer Nagar, Vadodara.

EC No. - F No. : J-11011/901/2007-IA (II) dated 31/07/08

Status of project: Methanol Plant is under shut down since 17/08/2021 due to economic unviability.

Production for period October 21 to March 22:

Month	Actual Production (MT)
Oct-21	0
Nov-21	0
Dec-21	0
Jan-22	0
Feb-22	0
Mar-22	0
Total Prod. (MT)	0
Prod. Quantity as per consent	191625 MTPA

COMPLIANCE OF EC CONDITIONS FOR REVAMPING OF AMMONIA-I TO METHANOL PLANT

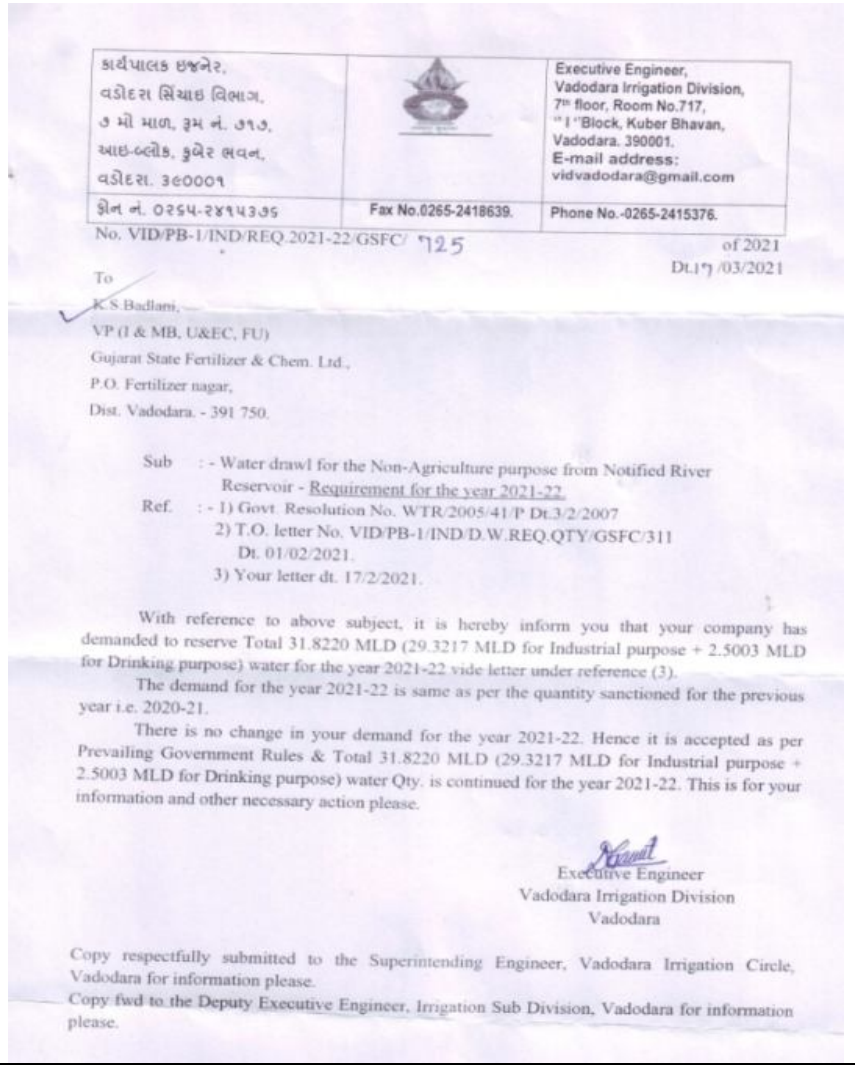
(EC No. - F No. : J-11011/901/2007-IA (II) dated 31/07/08)

SPECIFIC CONDITIONS:

Sr. No.	Conditions	Compliance Status (Period Oct.'21 to Mar.'22)
i)	The Project revamping shall be from existing Ammonia Plant to Methanol plant which is a cost effective.	Existing Ammonia Plant is revamped to Methanol Plant. Plant commissioning and GTR completed between 11thto 13thApril 2013.
	The Urea plant and other infrastructure shall remain same.	The Urea Plant and Other infrastructure are remained same.
	Present Status of the Project :	Methanol Plant is under shut down since 17/08/2021 due to economic unviability.
ii)	The company shall implement all the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries.	Complied with relevant CREP points pertaining to fertilizer industries.

iii)	The project authorities shall install efficient scrubbing system to control emission and bag filters for dust control in the plant.	One Vent wash Column (K-803) is provided for scrubbing of Vent Gas from Crude Methanol Tank TK-801 and scrubbed methanol is being reused in the same crude methanol tank and the vent gases is being sent to reformer for treatment and finally emitted from flue gas stack. No process stacks. Process Hydrocarbon releases in emergencies are also through Flare System. NG is being used as a fuel in reformer. Bag filters for methanol plant is not applicable as there is no solid/powder handling. Also natural Gas is being used as fuel in reformer. Particulate matter from reformer stack is nil. A request letter for needful amendment in condition is forwarded to MoEF New Delhi, vide letter no. E/11/Methanol Proj.EC dated: 14.07.2018 & 31.01.2020. As a part of certified compliance vide F.No. 5-193/2008(Env)/658 dated 05/10/21, "BEING COMPLIED" status is received from MoEFCC, Bhopal till amendment received from MoEFCC, New Delhi
iv)	Permission of the competent authority shall be obtained for drawl of water.	Complied GSFC is withdrawing water from its own French wells located in Mahi river for operation of the plants. GSFC got permission for 31.822 MLD drawl of water from Vadodara Irrigation Division (VID) for the year 2021-22 vide letter no. VID/PB-1/IND/REQ.2021- 22/GSFC/725 dated 17/03/2021. As per agreement of GoG, +/-25% beyond permissible limit is allowed on annual basis without any penalty. Avg. water drawl for the period Oct.'21 to March '22 is 29.65 MLD for GSFC vadodara complex.

		Permission for 31.822 MLD drawl of water from Vadodara Irrigation Division (VID) for the year 2021-22:



કાર્યપાલક ઇજનેર,
વડોદરા સિંચાઇ વિભાગ,
૭ મો માળ, રૂમ નં. ૭૧૭,
આઇ-બ્લોક, કુબેર ભવન,
વડોદરા. ૩૯૦૦૦૧
ફોન નં. ૦૨૬૫-૨૪૧૫૩૭૬

Executive Engineer,
Vadodara Irrigation Division,
7th floor, Room No.717,
"I "Block, Kuber Bhavan,
Vadodara. 390001.
E-mail address:
vidvadodara@gmail.com

Fax No.0265-2418639.

Phone No.-0265-2415376.

No. VID/PB-1/IND/REQ.2021-22/GSFC/ 125 of 2021

Dt.17 /03/2021

To

K.S.Badlani,

VP (I & MB, U&EC, FU)

Gujarat State Fertilizer & Chem. Ltd.,

P.O. Fertilizer nagar,

Dist. Vadodara. - 391 750.

Sub : - Water drawl for the Non-Agriculture purpose from Notified River Reservoir - Requirement for the year 2021-22.

Ref. : - 1) Govt. Resolution No. WTR/2005/41/P Dt.3/2/2007
2) T.O. letter No. VID/PB-1/IND/D.W.REQ.QTY/GSFC/311 Dt. 01/02/2021.
3) Your letter dt. 17/2/2021.

With reference to above subject, it is hereby inform you that your company has demanded to reserve Total 31.8220 MLD (29.3217 MLD for Industrial purpose + 2.5003 MLD for Drinking purpose) water for the year 2021-22 vide letter under reference (3).

The demand for the year 2021-22 is same as per the quantity sanctioned for the previous year i.e. 2020-21.

There is no change in your demand for the year 2021-22. Hence it is accepted as per Prevailing Government Rules & Total 31.8220 MLD (29.3217 MLD for Industrial purpose + 2.5003 MLD for Drinking purpose) water Qty. is continued for the year 2021-22. This is for your information and other necessary action please.

Executive Engineer
Vadodara Irrigation Division
Vadodara

Copy respectfully submitted to the Superintending Engineer, Vadodara Irrigation Circle, Vadodara for information please.

Copy fwd to the Deputy Executive Engineer, Irrigation Sub Division, Vadodara for information please.

v) The gaseous emission (SO2, SO3, NOx, NH3, F, fertilizer dust) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time.

Complied.

Monitoring of gaseous emission (SO2, NOx, NH3, F, fertilizer dust) and particulate matter from various process units of entire Vadodara complex is carried out through NABL approved lab, M/s. Ecosystem Resource Management Pvt. Ltd. (NABL Certificate No: TC-6603, Validity: 14/11/2022).Results for the period **Oct'21 to March '22** are confirmed to standard prescribed by statutory authority.

Details (Parameter wise Avg, Min, Max and GPCB norms.) for **Oct'21 to March '22** period are given below:

A. Ammonia-III and Ammonia-IV:

Compliance period		AMMONIA-III			AMMONIA-IV		
		SO2	NOX	PM	SO2	NOX	PM
Oct'21 to March'22	Avg.	Nil	197.45	9.25	Nil	67	7.35
	Min	Nil	189.7	7.1	Nil	65.8	5.8
	Max	Nil	205.2	11.4	Nil	68.2	8.9
GPCB Norms (mg/Nm3)		**262**	**400**	**150**	**262**	**400**	**150**

B. Urea-I and Urea-II:

		UREA - I		UREA - II	
Compliance period		PM kg/ton	NH3(mg/Nm3)	PM kg/ton	NH3(mg/Nm3)
Oct'21 to March'22	Avg.	0.82	27.5	1.2	28.7
	Min	0.75	25.8	1.2	27.8
	Max	0.89	29.2	1.2	29.6
GPCB Norms		**2**	**175**	**2**	**175**

C. Melamine-I:

		UREA ECS	MELAMINE-I			MELAMINE-I, DRYER OUTLET	
Compliance period			SALT FURNACE				
		NH3	SO2	NOX	PM	PM	NH3
Oct'21 to	Avg.	Nil	Nil	5.55	Nil	22.2	93.2

March'22	Min	Nil	Nil	5.4	Nil	21.6	92.3
	Max	Nil	Nil	5.7	Nil	22.8	94.1
GPCB Norms(mg/Nm3)		**175**	**262**	**350**	**150**	**150**	**175**

D. Melamine-II:

		MELAMINE-II			MELAMINE-II, DRYER OUTLET		AS-II
Compliance period		SALT FURNACE					
		SO2	NOX	PM	PM	NH3	PM
Oct'21 to March'22	Avg.	Nil	4.2	6.6	9.7	101.2	23.6
	Min	Nil	4.2	6.6	9.7	101.2	21.4
	Max	Nil	4.2	6.6	9.7	101.2	26.0
GPCB Norms(mg/Nm3)		**262**	**350**	**150**	**150**	**175**	**150**

E. Sulfuric Acid-III and Sulfuric Acid-IV:

		SA-III		SA-IV	
Comp. period		SO2	ACID MIST	SO2	ACID MIST
		kg/ton	mg/Nm3	kg/ton	mg/Nm3
Oct'21 to March'22	Avg.	0.93	15.1	1.02	11.95
	Min	0.90	14.2	0.94	11.5
	Max	0.96	16.0	1.1	12.4
GPCB Norms		**2**	**50**	**2**	**50**

F. Caprolactam-II:

Compliance period		CAPRO.-I WASTE LIQUOR			CAPRO.-II WASTE LIQUOR		
		SO2	NOX	PM	SO2	NOX	PM
Oct'21 to March'22	Avg.	79	57.5	91.7	44.5	147.5	46.15
	Min	76.8	55.3	90.5	44	145.1	45
	Max	81.2	59.8	93	45	149	47.3
GPCB Norms (mg/Nm3)		**262**	**400**	**150**	**262**	**400**	**150**

G. Caprolactam-I:

		CAPRO.-I SO2	CAPRO.-I DE-NOX	CAPRO.-II AS VENT

Compliance period		SCR.		UNIT		SCR.	
		SO2	NH3	NOX	NH3	SO2	NH3
Oct'21 to March'22	Avg.	13.8	18.5	23.4	13.5	Nil	26.5
	Min	11.9	17	21.3	10.2	Nil	24.7
	Max	15.7	20.1	25.6	16.8	Nil	28.3
GPCB Norms (mg/Nm3)		**40**	**175**	**300**	**175**	**40**	**175**

H. Caprolactam-II, DAP, PA:

		CAPRO.II DRYER	DAP DUST SCR.		DAP DUST SCR.		PA ROCK
Compliance period		O/L	A		B		G. MILL
		PM	NH3	PM	NH3	PM	PM
Oct'21 to March'22	Avg.	43.6	Nil	52.2	6.10	59.5	67.6
	Min	40.5	Nil	52.2	Nil	58.7	63.4
	Max	46.8	Nil	52.2	6.1	60.4	71.8
GPCB Norms (mg/Nm3)		**150**	**175**	**150**	**175**	**150**	**150**

I. DAP, PA plant:

		DAP FUMES SCR.		DAP FUMES SCR.		PA PLANT
Compliance period		A		B		FUMES SCR.
		NH3	F	NH3	F	F
Oct'21 to March'22	Avg.	13.7	10.3	16.4	15.45	4.3
	Min	13.7	10.3	15.5	9.6	4
	Max	13.7	10.3	17.3	21.3	4.60
GPCB Norms (mg/Nm3)		**175**	**25**	**175**	**25**	**25**

J. Utility Boiler and CVL boiler:

Compliance period		UTILITY BOILER -4,5			UTILITY CVL BOILER		
		SO2	NOX	PM	SO2	NOX	PM
Oct'21 to March'22	Avg.	Nil	7.95	8.85	Nil	30.25	7.30
	Min	Nil	7.30	8.50	Nil	29.30	7.00
	Max	Nil	8.60	9.20	Nil	31.20	7.60
GPCB Norms (mg/Nm3)		**600**	**300**	**150**	**600**	**300**	**150**

The total fluoride emission shall not increase 25 mg/Nm3.

K. Water Soluble Fertilizer and Nylon-6 II:

Compliance period		WSF	Nylon-6 II
		PM	PM
Oct'21 to March'22	Avg.	11.90	20.70
	Min	10.70	19.80
	Max	13.10	21.60
GPCB Norms (mg/Nm3)		**150**	**150**

L. Co-Generation-III&AS-I:

Compliance period		CO-GEN PHASE-III			AS-I
		SO2	NOX	PM	PM
Oct'21 to March'22	Avg.	9.40	65.15	11.40	37.15
	Min	7.80	62.40	10.40	35.20
	Max	11.00	67.90	12.40	39.10
GPCB Norms (mg/Nm3)		**600**	**600**	**100**	**150**

M. Melamine-III:

		MELAMINE-III			MELA-III, DRYER OUTLET				M-III MPTS	M-III vent scrubber
Compliance period		SALT FURNACE								
		SO2	NOX	PM	PM	NH3	SO2	NOx	PM	NH3
Oct'21 to March'22	Avg.	Nil	9.6	11.2	10.5	Nil	Nil	10.85	13.85	13.75
	Min	Nil	9.6	11.2	8.5	Nil	Nil	9.7	10.9	13.4
	Max	Nil	9.6	11.2	12.5	Nil	Nil	12.0	16.8	14.1
GPCB Norms		**100 ppm**	**90 mg/Nm3**	**150 mg/Nm3**	**150 mg/Nm3**	**175 mg/Nm3**	**100 ppm**	**350 mg/Nm3**	**150 mg/Nm3**	**175 mg/Nm3**

N. Methanol, SAG & S90WDmG Plant:

Compliance Period		Methanol Reformer			SAG - Vibro feeder Packing & Handling Unit	S90WDm G-Spray Drying System
Oct'21 to March'22		SO2	NOX	PM	PM	PM
	Avg.	S/D	S/D	S/D	8.95	86.2
	Min	S/D	S/D	S/D	8.2	79.4
	Max	S/D	S/D	S/D	9.7	93.1
GPCB Norms		**100 ppm**	**350 mg/Nm3**	**150 mg/Nm 3**	**150 mg/Nm3**	**150 mg/Nm3**

Emission data shall be periodically monitored and reports submitted to Ministry's Regional Office, CPCB and SPCB.

The gaseous pollutants emitted from the existing facilities are regularly monitored through NABL approved lab & in- house laboratory. The report is submitted to GPCB &MoEF regional office on half yearly basis. Moreover, GSFC has implemented OMS in 29 nos. of stacks and connected to CPCB & GPCB server. Stack emission data is also uploaded on monthly basis to GPCB website. Stack parameters details as per OMS:

Stack parameters details as per OMS for Compliance period **Oct '21 to March '22**:

Stack Id and Norms	AS_II_DRYER-PM - (Limit: 150 mg/Nm3)	CAPRO_II_AS_VENT-Ammonia - (Limit: 175 mg/Nm3)	CAPRO_II_AS_VENT-SO2 - (Limit: 40 mg/Nm3)
Avg	12.21	20.48	0.19
Min	1.42	1.73	0
Max	79.64	42.98	2.95
Stack Id and Norms	CAPRO_II_DRYER-PM - (Limit: 150 mg/Nm3)	CAPRO_I_DENOX-Ammonia - (Limit: 175 mg/Nm3)	CAPRO_I_DENOX-NOx - (Limit: 300 mg/Nm3)
Avg	28.65	7.14	114.32
Min	2.7	1.21	31.09
Max	53.95	27.57	140.44

Stack Id and Norms	CAPRO_I_SCRUBBER-Ammonia - (Limit: 175 mg/Nm3)	CAPRO_I_SCRUBBER-SO2 - (Limit: 40 mg/Nm3)	CVL_BOILER_STK-NOx - (Limit: 300 mg/Nm3)
Avg	85.73	0.08	48.09
Min	29.77	0.01	0
Max	134.94	0.15	85.69
Stack Id and Norms	DAP_FUMES_SCR_A-Ammonia - (Limit: 175 mg/Nm3)	DAP_FUMES_SCR_A-HF - (Limit: 25 mg/Nm3)	DAP_FUMES_SCR_B-Ammonia - (Limit: 175 mg/Nm3)
Avg	0	4.29	0
Min	0	0.35	0
Max	0	7.53	0
Stack Id and Norms	DAP_FUMES_SCR_B-HF - (Limit: 25 mg/Nm3)	PA_FUMES_SCRUBBER-HF - (Limit: 25 mg/Nm3)	PA_ROCK_GRINDING-PM - (Limit: 150 mg/Nm3)
Avg	4.52	1.74	49.96
Min	1.5	1.42	14.64
Max	7.91	1.99	94.85
Stack Id and Norms	Stack_Flue_Gas_2_AMMONIA_III_REFORMER-NOx - (Limit: 400 mg/Nm3)	Stack_Flue_Gas_3_AMMONIA_IV_REFORMER-NOx - (Limit: 400 mg/Nm3)	Stack_Flue_Gas_7_COGENERATION_III-NOx - (Limit: 600 mg/Nm3)
Avg	245.53	309.55	100.15
Min	40.16	177.79	0
Max	294.26	346.68	243.66

Stack Id and Norms	Stack_Flue_Gas_8_CAPRO_1_WASTE_LIQ-NOx - (Limit: 400 mg/Nm3)	Stack_Flue_Gas_8_CAPRO_1_WASTE_LIQ-SO2 - (Limit: 262 mg/Nm3)	Stack_Flue_Gas_9_CAPRO_II_IWI-NOx - (Limit: 400 mg/Nm3)
Avg	40.45	123.93	254.34
Min	0.4	40.29	22.82
Max	97.53	214.58	328.28
Stack Id and Norms	Stack_Flue_Gas_9_CAPRO_II_IWI-PM - (Limit: 150 mg/Nm3)	Stack_Flue_Gas_9_CAPRO_II_IWI-SO2 - (Limit: 262 mg/Nm3	Stack_P_13_SulphuricAcid_III_FAT-SO2 - (Limit: 1250 mg/Nm3)
Avg	37.03	38.54	764.51
Min	13.7	0.08	448.53
Max	52.73	165.63	1022.15
Stack Id and Norms	Stack_P_14_Sulphuric Acid_IV_FAT-SO2 - (Limit: 1250 mg/Nm3)	Stack_P_1_UREA_I_Prilling_tower-Ammonia - (Limit:175 mg/Nm3)	Stack_P_1_UREA_I_Prilling_tower-PM - (Limit: 150 mg/Nm3)
Avg	1060.23	8.46	70.51
Min	847.9	7.42	11.33
Max	1169.82	9.73	94.15
Stack Id and Norms	Stack_P_2_UREA_II_Prilling_tower-Ammonia - (Limit: 150 mg/Nm3)	Stack_P_2_UREA_II_Prilling_tower-PM - (Limit: 150 mg/Nm3)	Stack_P_8_Dryer_Outlet-Ammonia - (Limit: 175 mg/Nm3)
Avg	9.81	46.69	0
Min	8.41	12.72	0
Max	11.42	116.11	0
Stack Id and Norms	Stack_P_9_Dryer_Outlet-Ammonia - (Limit: 175 mg/Nm3)	UREA_MELA_ECS-Ammonia - (Limit:175 mg/Nm3)	UTILITY_BOILER-NOx - (Limit: 300mg/Nm3)

		Avg: 0 / 9.33 / 46.67 Min: 0 / 7.87 / 0 Max: 0 / 11.6 / 161.56 Stack Id and Norms: Stack_P_25_AS_I_Dryer-PM - (150 mg/Nm3) / Stack_P_22_Mel_III_Vent_Scrubber-NH3 - (175 mg/Nm3) / Stack_P_23_Mel_III_MPTS-PM - (150 mg/Nm3) Avg: 35.40 / 6.70 / 2.56 Min: 31.45 / 0.12 / 0.21 Max: 36.86 / 41.92 / 6.28 Stack Id and Norms: Stack_P_24_Mel_III_Dryer-NH3 - (175 mg/Nm3) / Stack_P_24_Mel_III_Dryer-NOx - (350 mg/Nm3) / Stack_P_24_Mel_III_Dryer-PM - (150 mg/Nm3) Avg: 1.43 / 6.60 / 5.08 Min: 0.75 / 0.78 / 0.02 Max: 4.67 / 15.48 / 62.79 Stack Id and Norms: Stack_Flue_Gas_11_Mela_III_Salt_Furnace-NOx - 90 mg/Nm3) / Stack_P_26_S90WDmG_Spray Drying System-PM – 150 (mg/Nm3) Avg: 28.90 / 87.29 Min: 13.7 / 26.83 Max: 39.82 / 121.19 Reason for occasional sms alert has been submitted to CPCB that is mainly due to choking / deposition on lens of OMS& Malfunction. Rarely sms alert due to operation disturbance/startup/shutdown.
vi)	All the waste waters generated from the various processes shall be treated as per the GPCB norms and	Complied. Effluent generated from methanol plant is in the form of cooling tower and boiler blow down which is collected in final effluent disposal pond. Condensate is recycled/ reused. Contaminated effluent streams of existing plants are treated as per GPCB norms. Analysis of final discharged effluent is carried out daily in in-house laboratory and through NABL approved lab, M/s. Ecosystem Resource Management Pvt. Ltd. (NABL Certificate No: TC-6603, Validity: 14/11/2022). Avg. results for the period October ‘21 to March ’22 are within the permissible limit given by GPCB. Details (Parameter wise max. Min. & Avg.) are given

below in tabular format.

Analysis results of final discharged effluent done by external NABL approved lab (min, max, avg and comparison with GPCB norms):

For Compliance Period Oct.'21 to March.'22:

Parameters	UNIT	Permissible Limit	Avg	Min	Max
pH value	-	6.5 to 8.5	7.41	7.17	7.73
Colour	Pt.Co.	100	49	33	87
S.S	mg/l	100	43	32	54
COD	mg/l	250	187	162	233
BOD	mg/l	100	49	38	63
Oil & Grease	mg/l	10	1.2	1	1.70
Ammonical Nitrogen	mg/l	50	11.3	8.2	15.3
Ph.compounds	mg/l	1	<0.1	<0.1	<0.1
Fluorides	mg/l	1.5	1.1	0.8	1.40
Cyanides	mg/l	0.2	Absent	Absent	Absent
Sulphides	mg/l	2	<0.1	<0.1	<0.1
Copper	mg/l	3	0.15	0.10	0.24
Arsenic	mg/l	0.2	<0.01	<0.01	<0.01
Total Chromium	mg/l	2	0.71	0.31	1.00
Hexavalent Chromium	mg/l	0.1	<0.03	<0.03	<0.03
Zinc	mg/l	5	0.17	0.11	0.28
Nickel	mg/l	3	0.14	0.07	0.25
Cadium	mg/l	2	<0.05	<0.05	<0.05
Lead	mg/l	0.1	<0.02	<0.02	<0.02
Mercury	mg/l	0.01	<0.01	<0.01	<0.01
Chlorides	mg/l	600	455	402	495
TDS	mg/l	5000	3183	2816	3617
Sulphates	mg/l	1000	724	624	806
Phosphate as P	mg/l	5	1.5	0.8	2.2
TKN	mg/l	100	14	10.2	17.4

Nitrate Nitrogen	mg/l	10	3.0	1.3	3.8
Vanadium	mg/l	0.2	<0.2	<0.2	<0.2
S.A.R	-	26	20	14	25
Insecti/Pesti.	mg/l	Absent	Absent	Absent	Absent
Bio assay test	%survival of fish after 96 hrs.in 100% effluent	90% survival of fish after 96 hrs. in 100% effluent	90	90	90

Analysis of final discharged effluent is also carried out on daily basis at in-house lab. Avg. in-house results of final discharged effluent for the period October '21 to March '22 are well within the GPCB norms. Analysis results of final discharged effluent done in-house (min, max, avg and comparison with GPCB norms):

For compliance period **October '21 to March '22:**

Parameters	**pH**	**SS**	**AN**	**TN**	**COD**	**BOD**
Avg	7.8	56	21.5	65.6	172	33
Min	7.6	33	19	53	126	28
Max	7.9	70	26	81	199	37
Norms	**6.5-8.5**	**100**	**50**	**100**	**250**	**100**

*All parameters are in mg/l except pH.

Moreover, Real time-Online Monitoring System is in operation from July 2014 for the effluent parameters i.e. pH, COD, BOD, TSS, NH4-N and it is connected to GPCB as well as CPCB server.

OMS data for compliance period **October '21 to March'22:**

	ETP Ammonical Nitrogen (Norms: 50mg/l)	ETP BOD (Norms: 100mg/l)	ETP COD (Norms: 250mg/l)	ETP TSS (Norms: 100mg/l)	ETP pH (Norms: 6.5-8.5 mg/l)
Avg	24.1	33	163.1	47.7	7.5
Min	11.1	20.7	102.5	27.5	7.3
Max	28.1	38.6	192.8	69.1	7.7

efforts shall be made to recycled/reuse the treated waste water.

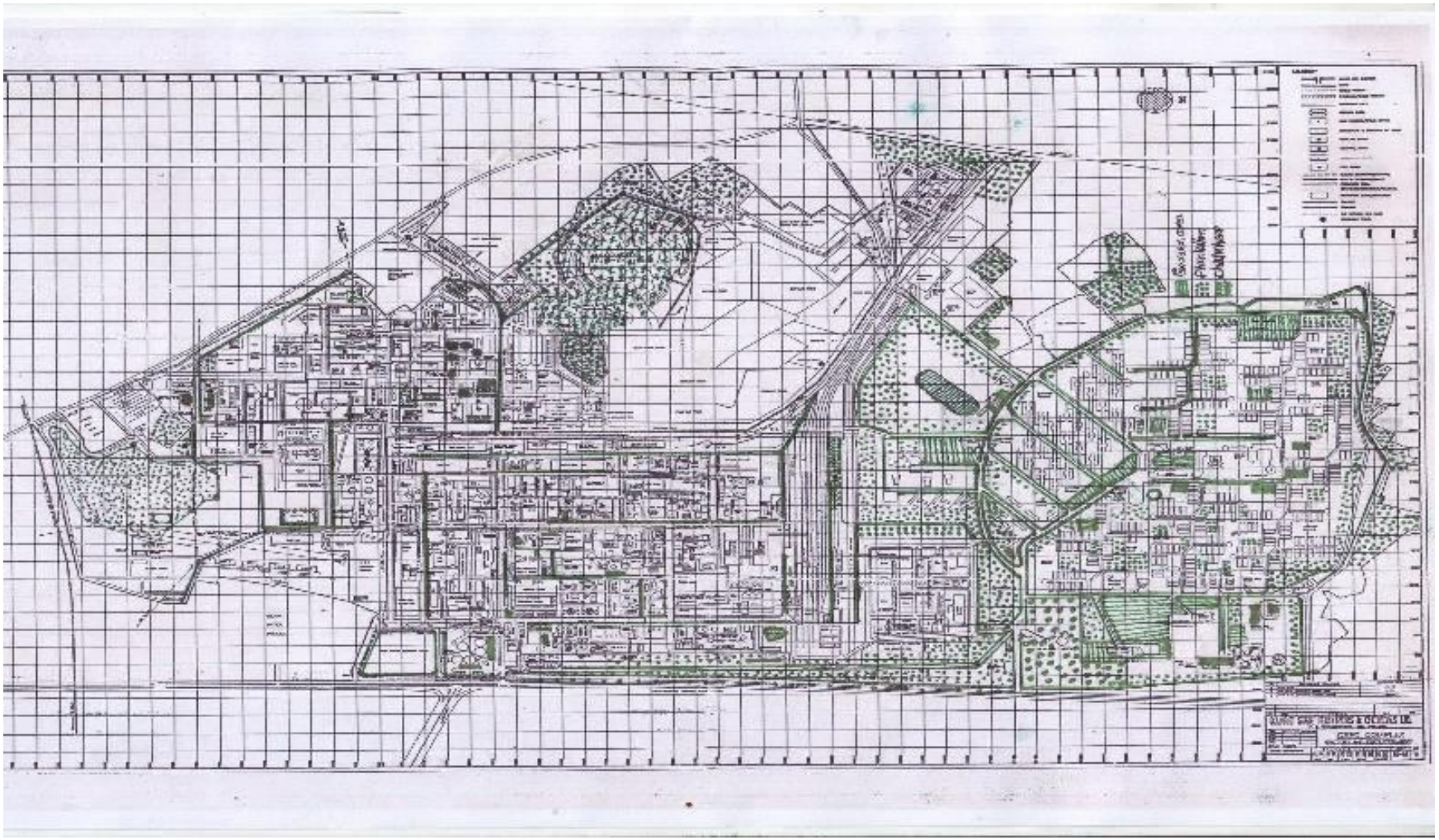
Existing Phosphoric Acid plant and DAP/APS plant has zero effluent discharge system. Moreover, effluent of Urea, Melamine & Ammonium sulphate plant effluent is reused in phosphoric acid plant. As an ISO 9001, 14001, ISO 45001, ISO 50001& RC company,

<table>
<tr><td></td><td>The domestic waste water shall be treated in septic tanks and treated waste shall be used for irrigation in the green belt.

Effluent from the process plant and associated facilities shall not be discharged to the storm water drain. The quality of the storm water shall be monitored regularly for pH, NH3 and fluoride.</td><td>GSFC is continuously making efforts for recycling and reuse of waste.

The domestic effluent from the plants is being treated in existing Septic tank & Soak Pit system. Domestic effluent from colony is treated in STP (plant capacity: 3175m^3/day) and used for irrigation in green belt.

Effluent from the process plant and associated facilities are not discharged to the storm water drain.
Analysis of storm water in outside Kans done on regular basis during monsoon.</td></tr>
<tr><td>vii)</td><td>The company shall develop the green belt in at least 33 % land area to mitigate the effect of fugitive emissions and noise as per the guidelines of CPCB.</td><td>Complied
The total area of premises is 328 ha. The green belt area is 123.2 Ha which is 37.56% of total plot area. Hence meeting CPCB guidelines.
<table>
<tr><th>Sr. No.</th><th>Particulate</th><th>Total Area (Ha)</th></tr>
<tr><td>1</td><td>Plant Area(Processing)</td><td>174.7</td></tr>
<tr><td>2</td><td>GSFC Township</td><td>30.1</td></tr>
<tr><td>3</td><td>Green Belt (In Plant)</td><td>32.8</td></tr>
<tr><td>4</td><td>Green Belt (Township)</td><td>90.4</td></tr>
<tr><td></td><td>Total area</td><td>328</td></tr>
</table>
</td></tr>
</table>



GSFC layout for Green belt

*dots in layout represent green belt area.

viii) Occupational health surveillance of the workers shall be carried out on a regular basis and

records shall be maintained as per the Factories Act.

Complied, Medical examination (six monthly) of employees is carried out on regular basis by Occupational Health Centre located within premises.

Records are maintained at OHC. Month wise summery of employees who underwent periodical and pre medical examination are given below:

Periodical Medical Examination details From October'21 to March'22:

Month	Periodical Medical Examination numbers		
	Employees	Contract worker	Total
October-21	288	15	303
November-21	294	18	312
December-21	307	13	320
January -22	129	11	140
February-22	129	11	140
March - 22	286	34	320
Total	**1433**	**102**	**1535**

Pre-Medical Examination details for period **October'21 to March'22**:

Month	Pre-medical Examination numbers
October-21	3
November-21	0
December-21	3
January -22	0
February-22	0
March - 22	10
Total	**16**

Examination done for Periodical medical examination:

S. No	Examinations	
1	Physical examination	
2	History of past and present illnesses of personal and family	
3	History of any medication and drug and allergic reaction.	
4	ECG (if needed)	
5	PFT	
6	Counseling for habits(tobacco, alcohol, smoking)	
7	Counseling (Nutrition , stress, ergonomics, hazard specification)	
8	Health screening of life style diseases	
9	Screening of HYPERSENSITIVITY of any chemical or any drug	
10	X-ray/USG (if needed)	
11	Blood investigation	1. CBC 2. LFT 3. RFT 4 Lipid profile(prone to cases) 5. RBS/FBS (PP2BS for prone to cases).
12	Urine examination	1. Glucose 2. Protein

- There is no occupational health disease during above period.

GENERAL CONDITIONS:

Sr.No.	Conditions	Compliance Status (Period Oct'21 to March.'22)
(i)	The project authorities shall strictly adhere to the stipulations of the SPCB / State Government or any statutory body.	Complied, we are ensuring compliance of all the applicable statutory requirements. Management of hazardous wastes (Mentioned in general condition no.ix) is carried out as per Rules. The return in Form-4 is also submitted regularly to GPCB. Avg. results of gaseous emission and final effluent discharge are given in point vi of specific condition. Moreover, Real-time-Online Monitoring System is in operation from July 2014 for the effluent parameters i.e. pH, COD, BOD, TSS, NH4-N and it is connected to GPCB as well as CPCB server. Data of real-time-Online Monitoring System for compliance period is also mentioned in point (v) of specific condition.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	GSFC will carry any further expansion or modification in the plants after taking necessary permission and approval from concerned authority i.e. GPCB/SEIAA/MOEF. There are no deviations and alterations in the project proposal.

<table>
<tr><td>(iii)</td><td>At no time, the emissions shall exceed the prescribed limits.

In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.</td><td>Complied. Emissions from the all other plants in Vadodara complex are within the prescribed norms. Details (Parameter wise Min, Max, Avg & Comparison with standard) are given in specific condition v.

Agreed. In case of any pollution control system failure, plant will not be operated until desired efficiency of pollution control devices are achieved.</td></tr>
<tr><td>(iv)</td><td>The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.</td><td>Complied,
4 nos. of online ambient air quality monitoring station (AAQMS) are installed in Nov. 13 at the periphery of entire factory premises after intimation to GPCB having PM10, PM2.5, NO_x, SO2 & NH3 monitoring facility

Moreover, Ambient air monitoring is carried out at 4 Nos. locations through NABL approved lab, M/s. Ecosystem Resource Management Pvt. Ltd. (NABL Certificate No: TC-6603, Validity: 14/11/2022).

<u>Ambient air analysis reports for compliance period October ’21 to March ‘22:</u>
<table>
<tr><th></th><th colspan="3">SO2, Limit - 80 micro gm/m3</th><th colspan="3">NOX, Limit - 80 micro gm/m3</th><th colspan="3">NH3, Limit - 400 micro gm/m3</th></tr>
<tr><th>LOCATION</th><th>AVG</th><th>MIN</th><th>MAX</th><th>AVG</th><th>MIN</th><th>MAX</th><th>AVG</th><th>MIN</th><th>MAX</th></tr>
<tr><td>Vadnagar Tank Farm</td><td>9.8</td><td>6.7</td><td>13.2</td><td>14</td><td>10.3</td><td>17.8</td><td>3.8</td><td>2.5</td><td>5.5</td></tr>
<tr><td>Dashrath Village</td><td>10.3</td><td>7.6</td><td>13.3</td><td>13.9</td><td>11.1</td><td>17.1</td><td>3.9</td><td>2.2</td><td>5.5</td></tr>
<tr><td>Nr. Godama Pump,Channi</td><td>10.1</td><td>6.3</td><td>13</td><td>14.3</td><td>11.2</td><td>18.9</td><td>4.2</td><td>2.8</td><td>5.6</td></tr>
<tr><td>Near main gate</td><td>10.9</td><td>8</td><td>14.1</td><td>15.3</td><td>12.3</td><td>20.3</td><td>4.5</td><td>2.6</td><td>5.8</td></tr>
</table>
</td></tr>
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<table>
<tr>
<td></td>
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<td>
<table>
<tr><th></th><th colspan="3">RSPM10, Limit – 100 micro gm/m3</th><th colspan="3">RSPM2.5, Limit - 60 micro gm/m3</th></tr>
<tr><th>LOCATION</th><th>AVG</th><th>MIN</th><th>MAX</th><th>AVG</th><th>MIN</th><th>MAX</th></tr>
<tr><td>Vadnagar Tank Farm</td><td>71.9</td><td>58.3</td><td>88.2</td><td>39.7</td><td>30.3</td><td>47.4</td></tr>
<tr><td>Dashrath Village</td><td>72.5</td><td>55.2</td><td>89.2</td><td>39.2</td><td>31.3</td><td>50.2</td></tr>
<tr><td>Nr.Godama Pump,Channi</td><td>74.9</td><td>62.5</td><td>88.4</td><td>40.2</td><td>30.3</td><td>47.5</td></tr>
<tr><td>Near main gate</td><td>73.6</td><td>57.6</td><td>87.2</td><td>40.2</td><td>33.7</td><td>48.4</td></tr>
</table>
Details of PM parameters of process stacks are given in specific condition no. 5.

AAQM annual avg. results are also submitted to SPCB as a part of form -4.
All the online ambient air quality monitoring stations are connected to GPCB & CPCB server.
</td>
</tr>
<tr>
<td>(v)</td>
<td>Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents.

The scrubbed water shall be sent to ETP for further treatment.</td>
<td>Complied,
One flue gas stack (AS-101) in Reformer section is provided for venting of flue gas generated in Reformer. The flue gas stack height is 33 Mts as per CPCB guideline.

One Vent wash Column (K-803) is provided for scrubbing of Vent Gas from Crude Methanol Tank TK-801 and scrubbed methanol is being reused in the same crude methanol tank and the vent gases is treated in reformer and finally vent through flue gas stack.

There is no process stacks in methanol plant.

Details of APC, diameter and height of all the existing process& flue stacks are given below.
<u>Details of Flue Gas stacks:</u></td>
</tr>
</table>

Sr. No	Plant	Stack attached to	Air Pollution Control Device	Height of stack (M)	Dia. (m)
1	Methanol	Reformer (Furnace)	-	33	2.5
		NG Pre heater		18	0.9
2.	Ammonia – III	Reformer (Furnace)	-	30	0.85
		NG Pre heater	-	30	0.85
3	Ammonia – IV	Reforming Section-100	-	52	3.0
		Syn. Unit-500	-	30	
		CRG Unit-900	-	30	
		CRG Unit-900	-	30	
		Pre-desulphurization	-	-	
4	Mela - I	Salt furnace	-	30	1.19
5	Mela – II	Salt furnace	-	35	1.5
6	Utility Boiler 4 & 5	Boiler 4 & 5	-	30	2.4
7	Cogen – I	Boiler	-	70	3.08
8	Cogen – II	Boiler	-	70	3.08
9	Cogen– III	Boiler	-	35	3.4
10	Capro – I	Waste liquor unit	Water scrubber	22	0.96
11	Capro – II	IWI Unit	ESP (Eff. 99.26%)	40	1.0
12	New CVL Boiler	New Boiler	-	70	3.5
13	Melamine – III	Salt furnace	-	30	1.2

Details of Process stacks:

Sl. No	Plant	Stack attached to	APC Device	Dia (m)	Stack height (m)
1	Urea – I	Prilling Tower	Water Scrubber	4 x 1	38
2	Urea – II	Prilling Tower	Water Scrubber	1.45 x 4.36	70
3	Urea –Mel (Urea ECS)	Condenser oxidation column	H2SO4 Scrubber (Eff. 99.5%)	1.25	38
4	Melamine – I	Dryer Outlet	Filter	0.15	15
5	Melamine – II	Dryer Outlet	Filter	0.15	17
6	Phos. Acid	Rock Grinding Mill	Ventury Scrubber	0.8	30
7	Phos. Acid	Digester	Fume scrubber	2.49	20
8	DAP/APS/MAP /NPK	Dryer&Dust Scrubber A Train & B Train	Cyclone separator &Ventury scrubber	1.43	30
9	DAP/APS/MAP /NPK	Granulator & Neutralization A Train & B Train	Fume Scrubber	0.74 1.02	25
10	AS-II	Dryer	Cyclone Separator	0.9	19.2
11	SA-III	Final Absorption Tower	Final Absorption Tower	1.22	52

		12	SA-IV	Final Absorption Tower	Final Absorption tower	2.86	100
		13	Capro-I	D-415-3 Tower O/L	Scrubber	0.43	25
		14	Capro-I	D-414-3 Tower O/L	De Nox unit	1.0	25
		15	Capro-II	AS Dryer	Cyclone Separator & Scrubber	1.016	30
		16	Capro-II	AS Vent Scrubber	Scrubber	0.2	30
		17	New Nylon 6 Plant	Process Vessels	Scrubber	0.25	30
		18	WSF & MM Plant	Crusher, Hopper, Mixers	Bag Filter	0.25	40
		19	SAG	Vibro feeder packing & handling unit	Bag Filter	0.152	12.2
		20	Melamine – III	Dryer Outlet	Wet Scrubber	0.8	20
		21		Vent Scrubber	Ammonia Scrubber	1.3	23
		22		MPTS	Filter	0.3	15
		23	AS-I	Dryer	Dust cyclone	0.54	21
		24	S90WDmG	Spray Drying System	Cyclone followed by venture scrubber	0.9	18

(vi)	All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N2 blanketing And secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapor losses. All liquid raw materials shall be stored in storage tanks and drums.	Complied, All the storage tanks are designed with Nitrogen blanketing. Breather Valves are also provided. All liquid material is being stored at atmosphere condition. Secondary condenser is not provided as there is no vapor loss from the tanks. The same is as per the design provided by technology supplier M/s Haldor Topsoe A/S, Denmark A request letter for needful amendment in condition is being forwarded to MoEF New Delhi, vide letter no. E/11/Methanol Proj.EC dated: 14.07.18 & 31.01.2020. Secondary condenser is not applicable as there are no vapor losses from the tanks. All storage tanks are designed with Nitrogen blanketing with slight positive pressure to avoid ingress of air/oxygen into tank. As a part of certified compliance vide F.No. 5-193/2008(Env)/658 dated 05/10/21, "BEING COMPLIED" status is received from MoEFCC, Bhopal till amendment received from MoEFCC, New Delhi All liquid raw materials are stored in the storage tanks.
(vii)	The company shall undertake following waste minimization measures: ➢ Metering and control of quantities of active ingredients to minimize waste. ➢ Reuse of by-products from the process as raw materials or as raw material substitutes inother processes. ➢ Use of automated filling to minimize spillage. ➢ Use of "Close Feed" system into batch reactors.	Complied Active ingredients such as BFW (boiler feed water) chemicals are used through metering pumps. Condensate from the process & scrubbing liquor of wash column is recycled in to system. Filling is done through control valve based on batch counter setting. Process is having "Close Feed" system and continuous in nature.

<table>
<tr><td></td><td>➢ Venting equipment through vapor recovery system.

➢ Use of high pressure hoses for equipment cleaning to reduce waste water generation.</td><td>Vapor is scrubbed & recovered in Wash Column and finally mixed with CA to avoid venting.

This will be considered as and when required.</td></tr>
<tr><td>(viii)</td><td>Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored.

The emissions shall conform to the limits imposed by the State Pollution Control Boards/Central Pollution Control Board.</td><td>Complied,
Work place monitoring is carried out at regular intervals at 5 locations within Methanol plant during the operation of plant. Moreover, work place monitoring is carried out at 52 different locations in different existing plants through third party.

For Compliance period October ’21 to March ‘22:
<table><tr><th>Parameters</th><th>NH3 (ppm)</th><th>SO2 (ppm)</th><th>HF (ppm)</th><th>NOX (ppm)</th><th>BENZENE (ppm)</th></tr><tr><td>Avg</td><td>11.79</td><td>0.43</td><td>0.37</td><td>4.99</td><td>0.12</td></tr><tr><td>Min.</td><td>2.4</td><td>0.09</td><td>0.17</td><td>3.1</td><td>0.05</td></tr><tr><td>Max.</td><td>22.4</td><td>0.97</td><td>0.62</td><td>6.5</td><td>0.16</td></tr><tr><td>Limit</td><td>25.00</td><td>2.00</td><td>3.00</td><td>25.00</td><td>0.50</td></tr></table>
Summery in terms of maximum, minimum and average of parameters and test reports is available. The emissions conform to the limits imposed by the State Pollution Control Boards/Central Pollution Control Board.</td></tr>
<tr><td>(ix)</td><td>The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000and

Hazardous Waste (Management and Handling) Rules, 1989, as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage and disposal of hazardous wastes.</td><td>Complied, GSFC is adhered to all applicable legal requirements comply with the rules and guidelines of Manufacture, Storage and Import of Hazardous Chemicals Rules. Onsite emergency plant has been prepared and updated in 18/06/2020.
Also strictly complied with the rules & guidelines of Hazardous Waste Rules.

Details of Hazardous Waste are given below:
<table><tr><th>S.no</th><th>Name of waste</th><th>Authorization from GPCB</th><th>Generated during period Oct ‘21-March’ 22 in MT</th></tr></table></td></tr>
</table>

1	ETP Sludge	40 MT/Year	Nil
2	Used Oil	250 MT/Year	73.62
3	Discarded Containers	10000 nos./Year	73.68.
4	Spent Catalyst (Acidic)	35 MT/Year	33.2
5	Spent Catalyst (Alkaline)	275 MT/Year	61.1
6	Organic Waste	20 MT/Year	18.712
7	Sulphur Muck	350 MT/Year	241.53
8	Carbon residue	7.7 MT/Year	Nil
9	Molten Salt	66 MT (in span of 07 years)	Nil
10	High Boiling Hydro Carbon	8.25 MT (in span of 07 years)	Nil
11	Spent Resin	80 MT/Year	18
12	Insulation waste	75 MT/year	33
13	Contaminated Cotton rags & other cleaning material	5 MT/Year	1.13

- ETP Biological sludge of 95.5 MT was given to vendor for further utilization by organic manure manufacturer / farmers.

Details of Hazardous waste management:

Sr. No	Name of Waste	Method of Collection/ Storage	Method of Disposal
1	ETP Sludge	Generated during cleaning of tank/pond, packed in HDPE bags	Dispose at NECL
2	Used Oil	Drums/Tanks in	Sell to registered

			Room	refiner
3	Discarded Containers	Storage Yard	Sell to registered recycler
4	Spent Catalyst (Acidic)	Drums in Room	Dispose at TSDF/ Sell to register recycler
5	Spent Catalyst (Alkaline)	Drums in Room	Sell to register recycler
6	Organic Waste	Drums/Bags stored in Room	Dispose at NECL's /SEPPL's incineration facility
7	Sulphur Muck	Stored in the yards	Reuse/ authorized Secured Disposal facility.
8	Carbon residue	Store in bags & keep on pallets at specified waste storage area	Dispose at common hazardous waste incineration facility
9	Molten Salt		Reuse/ or disposal at authorized TSDF site.
10	High Boiling Hydro Carbon		Dispose at common hazardous waste incineration facility
11	Spent Resin	In Bags / Drums at Utility Plant	Dispose at common hazardous waste incineration facility / co-processing sites.
12	Insulation waste	Stored in bags at specified storage area.	Disposal at M/s. NECL – TSDF.
13	Contaminated Cotton rags & other cleaning material		Disposal at M/s. NECL//SEPPL/DIPL/BEIL/co-processing sites.

<table>
<tr><td></td><td></td><td>Authorization under HWMH Rules has been obtained from GPCB vide CCA order No. AWH-117101, valid up to 30/09/2028.</td></tr>
<tr><td>(x)</td><td>The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.

The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dB(A) (day time) and 70 dB(A)(nighttime).</td><td>Complied,
At Methanol Plant, necessary Engineering controls like silencers are provided to retard noise emission. Noise level at the periphery of premise are monitored through NABL approved lab, M/s. Ecosystem Resource Management Pvt. Ltd. (NABL Certificate No: TC-6603, Validity: 14/11/2022) are being monitored on regular interval by summarized below.
Noise Level for compliance period Oct.'21 to March '22:
<table>
<tr><th rowspan="2">Location</th><th colspan="3">Noise Level, Limit-75 dB(A) Daytime</th><th colspan="3">Noise Level, Limit-70 dB(A) Night time</th></tr>
<tr><th>Avg</th><th>Min</th><th>Max</th><th>Avg</th><th>Min</th><th>Max</th></tr>
<tr><td>Nr Marketing Yard</td><td>55</td><td>43.5</td><td>66.5</td><td>47.5</td><td>36.5</td><td>58.5</td></tr>
<tr><td>Nr AdmBldg</td><td>53.25</td><td>43</td><td>63.5</td><td>45.5</td><td>38.5</td><td>52.5</td></tr>
<tr><td>B/H Sa-IV</td><td>62.5</td><td>54.5</td><td>70.5</td><td>56.5</td><td>47</td><td>66</td></tr>
<tr><td>Vadnagar Tank Farm</td><td>55</td><td>45.5</td><td>64.5</td><td>49</td><td>40</td><td>58</td></tr>
</table>
Noise monitoring is also carried out at 80 different locations within plant/premises.

The ambient noise levels conform to the standard prescribed under environment (protection) act, 1986 rules, 1989 viz. 75dB(A) (day time) and 70 dB (A) (nighttime).</td></tr>
<tr><td>(xi)</td><td>The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water.</td><td>Complied, Rain Water Harvesting System exists at the Guest House, Science Foundation Building and Township's residential areas with well water recharging, Roof Top Rain Water Harvesting and Rain water harvesting ponds. Further to this, GSFC has constructed 16 water harvesting structure (Recharge well & Furrat system) in phase manner in 2009 & 2012. The filtrations rate is in the in the range of 65-70 M3/ Hr. of each wells. Ponds have also been dug out to store the rain water runoff and percolate the same.</td></tr>
</table>

<table>
<tr>
<td>(xii)</td>
<td>The company shall undertake eco- developmental measures including community welfare measures in the project area for the overall improvement of the environment.

The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.</td>
<td>Complied, Individual eco-development plans are not prepared but all sectors for community welfare and environment improvements are considered in company's regular CSR activities. Various other green initiatives are Bio Fertilizers; Tissue culture etc. has been undertaken.

CSR activities with respect to Education, drinking water, health, Garden rejuvenation etc are done regularly.

Details of CSR activities are submitted to GPCB as a part of half yearly compliance report.
CSR Expenditure incurred from Oct'21 – March'22:
<table>
<tr><th>Sr.</th><th>Details</th><th>Amount Rs.</th></tr>
<tr><td>1</td><td>Education at BU, SU and FU</td><td>26,27,950</td></tr>
<tr><td>2</td><td>Drinking Water Facility in nearby villages of BU</td><td>11,53,377</td></tr>
<tr><td>3</td><td>CSR Activities in villages around Sikka Unit</td><td>8,90,410</td></tr>
<tr><td>4</td><td>Support for renovation of SVPNPA</td><td>50,00,000</td></tr>
<tr><td>5</td><td>Support to GSFC University</td><td>4,00,00,000</td></tr>
<tr><td colspan="2">Total</td><td>4,96,71,737</td></tr>
</table>
In 2008, after receipt of EC, CSR activities (eco-development plan) was submitted.

However, CSR Activities are undertaken by GSFC since its inception in some or the other form. Today, company has developed CSR as a very special concept to promote the overall development, progress and betterment of the people belonging to weaker sections of society with a view to improving 'Human Development Index' (HDI) in core areas like education, health, safe drinking water, vocational training, livelihood, special children, support during natural calamities and various in-house projects.
<table>
<tr><th>Area</th><th>Project</th></tr>
<tr><td>Education</td><td>• Empowering youth for better prospect - GSFC University
• Shaping future of the nation - School at BU, SU, FU</td></tr>
</table>
</td>
</tr>
</table>

		• A healthy body leads to healthy mind - Sports Coaching in schools - Looking at the present competitive world to develop multifaceted personalities the sports culture is given very high importance worldwide.
	Special Children	• Why fit in when you were born to stand out - **Osmosis Centre** - GSFC in association with GCSRA has established 'Osmosis Centre' at Urban PHC, Chhani, Vadodara. The main goal of Centre is to help children with learning difficulties by adopting inclusive education with developmental therapy and enhance the growth curve of children. Osmosis runs therapy center for children who learn differently.
	Developing CSR Culture	• We rise by lifting others - Employee Engagement Activities • Not just human, Humane too - Wall of Humanity • Making world a better place - Support Beyond Boundaries
	Rural Development	• Jal he Jivanhai - Drinking water Supply to Nearby villages • Creating inclusive structures - Infrastructure Development • I have a dream - Skill Development
	Major Past Initiatives	• Fighting Hunger - Support to The Akshaya Patra Foundation • Swachtatyanprabhuta - Construction of HSLs – Household Sanitary Latrines
	Contribution and Donations	• Together we can - Regular Support to Various NGOs and other institutions for upliftment of the society

<table>
<tr>
<td>(xiii)</td>
<td>The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.</td>
<td>Complied with all the conditions mentioned in EC.
Existing Ammonia 1 Plant has been revamped to Methanol Project. Hence EIA report is not required as per condition no.7 (ii) of EIA notification. During granting of EC, only detailed note on various sources of pollution asked by MoEF, New Delhi. Details of the same has been submitted to your office vide our letter no. E/10/Methanol Proj. EC dated 18/01/13.

EMP as per the details submitted by GSFC :
<table>
<tr><th>S. No</th><th>EMP</th><th>Measures</th></tr>
<tr><td>1</td><td>Scrubbing of emission from venting equipment with wash column.</td><td>Wash column installed</td></tr>
<tr><td>2</td><td>During the emergency, gaseous emission is being released in to Flare system.</td><td>System installed.</td></tr>
<tr><td>3</td><td>Recycle of condensate from the process & scrubbing liquor of wash column.</td><td>System installed</td></tr>
</table>
</td>
</tr>
<tr>
<td>(xiv)</td>
<td>A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.</td>
<td>Complied, GSFC has separate environment cell and fully fledged laboratory facilities for environment management and monitoring.

EMC details like name of persons, designation, technical qualification along with parameter wise equipment available for in-house monitoring is given below.

EC Dept. Staff list:
<table>
<tr><th>Sr. No.</th><th>Name of employees</th><th>Designation</th><th>Tech. Qualification</th></tr>
<tr><td>1</td><td>S J Parikh</td><td>SVP (U & EC)</td><td>B.E (Chemical)</td></tr>
<tr><td>2</td><td>K S Badlani</td><td>Sr. VP (I&MB,U&EC & FU)</td><td>B.E (Chemical)</td></tr>
<tr><td>3</td><td>P D Kachchhi</td><td>Chief (EC) &Dy.MR</td><td>B.E. (Env.), PDIS</td></tr>
<tr><td>4</td><td>Mrs.S Y Singh</td><td>SR.MGR(EC)</td><td>B.E. (Civil)</td></tr>
<tr><td>5</td><td>Prashant U Kadu</td><td>SR. MGR (EC)</td><td>B.E. (TEXTILE)</td></tr>
<tr><td>6</td><td>Jaxesh P Trivedi</td><td>Mgr (EC)</td><td>B.E (Chemical), M.Tech (EPD), PDIS</td></tr>
</table>
</td>
</tr>
</table>

		7	Ashok H Shah	Mgr(EC)	B. Sc (Chemistry)
		8	Jayesh M Dave	Addl.Mgr(EC)	B. Sc (Chemistry)
		9	Prateek Jain	Dy.Mgr (EC).	B. Tech. (Chem.)
		10	Pankaj K Sharma	Plant Engineer.	B.Tech. (Chem.)
		11	Mosmi M Patel	Env. Engg.	B.Tech. (RE & EE)
		12	S I Malek	Plant Engineer	B. Sc (Chemistry)
		13	Rajesh K Desai	Foreman	B.SC Chemistry, DIPC, MS in Envt. Sci. under DLP
		14	Ambalal K Rana	Sr.Operator	B. Sc (Chemistry)
		15	Anil L Arora	Sr.Operator	B. Sc (Chemistry)
		16	M R Chandlekar	Sr.Operator	ITI
		17	Vipul R Upadhyay	Sr.Operator	B. Sc (Chemistry)
		18	PC Maisuriya	Sr.Operator	SSC
		19	H V Shah	Plant Engr.	B. Sc (Chemistry)
		20	MM Parmar	Sr.Operator	SSC
		21	Jayesh Solanki	Sr. Operator	Old SSC
		22	Rajesh H Patel	Sr. Operator	B. Sc (Chemistry)
		23	Kanubhai B Padhiyar	Operator	B. Sc (Chemistry)
		24	Hitesh D Patel	Operator	M.Sc (Env. Sci.)
		25	Bhavesh C Patel	Operator	M.Sc (Indus. Chem)
		26	MB Kharachia	Sr. Operator	SSC
		27	KN Chavda	Foreman	SSC
		28	Pankaj C Patel	Jr. Operator	HSC Pass
		29	Biren R Patel	Jr. Operator	M.Sc. (Env), PDIS, Cert. (Dis.Mgmt)
		30	Purvish S Shah	Jr. Operator	M.Sc. (Env), Cert. (Dis. Mgmt)
		31	V R Rabari	Jr. Operator	HSC
		32	Jayesh S Patel	Attendant	Bsc. (Chem.)

<table>
<tr><td></td><td></td><td>
<table>
<tr><td>33</td><td>Bhavdip S Vamja</td><td>Assistant Operator</td><td>B.Sc Chemistry</td></tr>
<tr><td>34</td><td>Gami Ravi kumar</td><td>Assistant Operator</td><td>B.Sc Chemistry</td></tr>
</table>
* Total 15 nos. workmen available, which include 5 regular employees and 10 contract workman.

Equipments are available for in-house effluent monitoring for parameters like PH, Total Dissolved Solids, Suspended solids, Ammonical Nitrogen, Total Nitrogen, Chemical Oxygen Demand, APHA, Fluoride, Oil and Grease. Equipments are available for in-house gaseous monitoring for parameters like SO2, NH3, F & NOX.

For spot analysis of gaseous pollutant (Equipment: Dragger tube (available) and pump)</td></tr>
<tr><td>(xv)</td><td>The project authorities shall earmark adequate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein.</td><td>Complied, GSFC has provided adequate funds to implement the conditions stipulated by the MoEF. Expenditure incurred on EMP: Rs. 4.38 crore.
Details pertaining to Env

Expenditure incurred on EMP (Environment Management Plan) of Methanol Plant:
<table>
<tr><th>Equipment</th><th>Equipment Value</th><th>Operating Cost</th></tr>
<tr><td>Hot Flare stack</td><td>Rs. 3.0729 Cr. (Considering Supply, Erection, Commissioning etc.)</td><td>9500Rs./Day
Basis : NG price 15 Rs/sm3, IG price: 15 Rs/Nm3</td></tr>
<tr><td>Vent Wash Column (K-803)</td><td>Rs. 0.0746 Cr.</td><td>No extra cost , as DMW is being recycled in process.</td></tr>
<tr><td>De-aerator (D-101)

(Condensate recycling)</td><td>Rs. 0.4248 Cr</td><td>1000 Rs/day chemical cost.

Basis : 231Rs/kg for Hydrazine & 223 Rs/Kg for morpholine.</td></tr>
</table>
</td></tr>
</table>

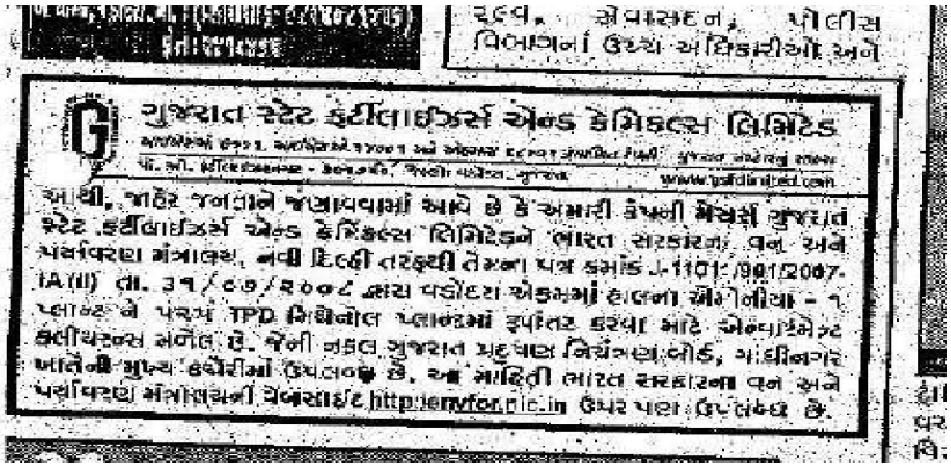
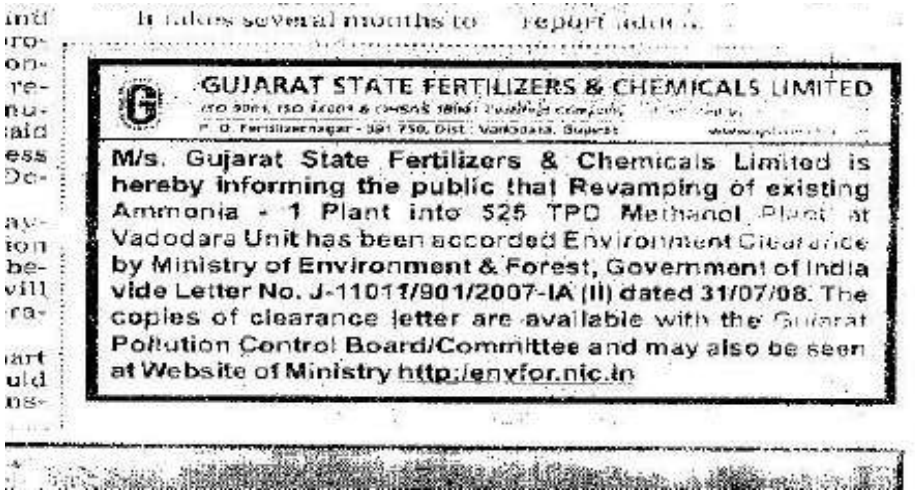
<table>
<tr><td></td><td>The funds so provided shall not be diverted for any other purpose.</td><td>
<table>
<tr><td>Flue Gas Stack</td><td>Existing</td><td>-</td></tr>
<tr><td>Closed Darin Vessel (V-108)</td><td>Rs. 0.810 Cr.</td><td>-</td></tr>
</table>
<u>Past three year investment in pollution control in overall GSFC premise:</u>
<table>
<tr><th>Description</th><th colspan="3">Expenses in lakhs</th></tr>
<tr><td></td><td>2019-20</td><td>2020-21</td><td>2021-22</td></tr>
<tr><td>Investment in Pollution control</td><td>4150.89</td><td>4197.49</td><td>4198.58</td></tr>
<tr><td>Total Investment</td><td>515347.37</td><td>521649.49</td><td>521036.12</td></tr>
</table>
The fund earmarked to implement the conditions of MOEF has been utilized for intended purpose only.</td></tr>
<tr><td>(xvi)</td><td>The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry / SPCB / CPCB.

A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.</td><td>Director of MoEF, Bhopal visited on 09/09/2013, and Scientist (D) of MoEF visited on 08/07/17, 17/07/18 & 26.07.19 and GPCB last visited on 19/10/2021. Dy. Director-MoEF visited on 23.06.2021.

Complied, Submitted report in Nov. 2008, Mar. 2010, July 2011 and regularly from Dec 2012. Last compliance status report submitted to MoEF, Integrated Regional office (Gandhinagar) in Dec..2021 and also uploaded in GSFC's website www.gsfclimited.com(gsfc@glance-RC- IMS-Baroda unit).</td></tr>
<tr><td>(xvii)</td><td>The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least</td><td>Complied, EC Advertise has been published in local news papers i.e. Vadodara Samachar & Business Standard newspaper on 03/09/2008.

We did not get the copy of environmental clearance due in time, hence we had to go to MoEF to collect copy of environmental clearance personally and after getting the copy, and we have published within 7 days.

Copy of the advertisement was forwarded to MoEF Bhopal vide letter ref no. EC/1</td></tr>
</table>

	in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	dated 12.11.2008. **Advertisement published in Vadodara Samachar& Business Standard newspaper on 03/09/2008:**  ગુજરાત સ્ટેટ ફર્ટીલાઇઝર્સ એન્ડ કેમિકલ્સ લિમિટેડ www.gsfclimited.com આથી, જાહેર જનતાને જણાવવામાં આવે છે કે અમારી કંપની મેસર્સ ગુજરાત સ્ટેટ ફર્ટીલાઇઝર્સ એન્ડ કેમિકલ્સ લિમિટેડને ભારત સરકારના, વન અને પર્યાવરણ મંત્રાલય, નવી દિલ્હી તરફથી તેમના પત્ર ક્રમાંક J-11011/901/2007-IA(II) તા. ૩૧/૦૭/૨૦૦૮ અંગે વડોદરા એકમમાં હાલના એમોનીયા - ૧ પ્લાન્ટ ને પરથી TPD મિથેનોલ પ્લાન્ટમાં રૂપાંતર કરવા માટે એન્વાયરમેન્ટ ક્લીયરન્સ મળેલ છે. જેની નકલ ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ, ગાંધીનગર ખાતેની મુખ્ય કચેરીમાં ઉપલબ્ધ છે. આ માહિતી ભારત સરકારના વન અને પર્યાવરણ મંત્રાલયની વેબસાઇટ http:envfor.nic.in ઉપર પણ ઉપલબ્ધ છે.  It takes several months to report ... GUJARAT STATE FERTILIZERS & CHEMICALS LIMITED M/s. Gujarat State Fertilizers & Chemicals Limited is hereby informing the public that Revamping of existing Ammonia - 1 Plant into 525 TPD Methanol Plant at Vadodara Unit has been accorded Environment Clearance by Ministry of Environment & Forest, Government of India vide Letter No. J-11011/901/2007-IA (II) dated 31/07/08. The copies of clearance letter are available with the Gujarat Pollution Control Board/Committee and may also be seen at Website of Ministry http:/envfor.nic.in

(xviii)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied, Project approved on 15/07/2006 by Board of Directors. Financial Closure - Part B of Industrial Entrepreneur's Memorandum filed for Methanol Project submitted to the Secretariat for Industrial Assistance (SIA), Department of Industrial Policy and Promotion, Ministry of Industry, Udyog Bhawan, New Delhi – 110011. Final Approval - CTO obtained from GPCB on 28.08.2012.. 10th March 2013 (First Production)

Monitoring the Implementation of Environmental Safeguards Ministry of Environment & Forests
Western Region, Regional Office, Bhopal
MONITORING REPORT

PART – 1 DATASHEET

No.	Conditions	Compliance Status (Period Oct '21 to March'22)
1.	**Project type**: River-valley / Mining/ Industry/Thermal/Nuclear/Others(specify)	Revamping of existing Ammonia -1 plant into Methanol Plant.
2.	**Name of the Project**	525 TPD Methanol Plant
3.	**Clearance letter(s) OM No. and date**	F.No.J-11011/901/2007-IA(II)dated 31/07/08
4.	**Location** a) District(s) b) State(s) c) Location Latitude /Longitude	 Vadodara Gujarat $20^0$22'27" latitude and $73^0$09'11" longitude
5.	**Address for Correspondence** Address of the Concerned Project Chief Engineer (with Pin Code & Telephone/ Telex/ Fax Numbers)	Mr. K S Badlani, Sr. Vice President (I&MB, U&EC & FU) P.O.: Fertilizernagar - 391750, Tal. & District : Vadodara, State : Gujarat Mo. no. :9909965842; email: ksbadlani@gsfcltd.com

6.	**Salient Features** a) of the Project b) of the Environmental Management Plans	Project: Brown field project utilizing idle asset of existing Ammonia – 1 Plant and prevent venting Gas i.e. O_2 & CO_2 from Ammonia – IV Plant. EMP: Wash column has been provided for scrubbing of emission from venting equipment. During the emergency, gaseous emission is being released in to Flare system. Condensate from the process & scrubbing liquor of wash column are recycled.
7.	**Breakup of the Project Area** a) Submergence area : Forest &Non-Forest b) Others	 Not Applicable Revamping of existing Ammonia – 1 Plant.
8.	**Breakup of the project affected population** with enumeration of those Losing Houses / Dwelling Units only, Agricultural Land only, Both Dwelling Units & Agricultural Land &I Landless Laborers/ Artisans : a) SC, ST /Adivasi b) Others (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out and give details & year of survey)	Not Applicable

<table>
<tr><td>9.</td><td>Financial Details :

a) Project Cost as originally planned and subsequent revised estimates and the year of price Reference.

b) Allocation made for environmental management plans with item wise and year wise break-up.

c) Benefit cost ratio/Internal rate of Return and the year of assessment

d) Whether (c) includes the cost of environmental management as shown in the above

d) Actual expenditure incurred on the Project so far.

e) Actual expenditure incurred on the environmental management plans so far.</td><td>Original Cost Rs. 259 Crore (Year 2005). Revised estimated cost Rs 301 Cr. (Oct’2010).

Following expenses made towards EMP:
<table><tr><th>Equipment</th><th>Equipment Value</th></tr><tr><td>Hot Flare stack</td><td>Rs. 3.0729 Cr. (Considering Supply, Erection, Commissioning etc.)</td></tr><tr><td>Vent Wash Column (K-803)</td><td>Rs. 0.0746 Cr.</td></tr><tr><td>De-aerator (D-101)
(Condensate recycling)</td><td>Rs. 0.4248 Cr</td></tr><tr><td>Flue Gas Stack</td><td>Existing</td></tr><tr><td>Closed Darin Vessel (V-108)</td><td>Rs. 0.810 Cr.</td></tr></table>
Internal Rate of Return – 15.93 %

Yes

Approx. Rs. 290 Crore expenditure booked.

Integral part of Project</td></tr>
</table>

10	**Forestland Requirement** a) The status of approval for diversion of forest land for non-forestry use b) The status of clearing felling. c) The status of compensatory a forestation,	Not Applicable
	If any. Comments on the viability & sustainability Of compensatory a forestation program In the light of actual field experience so far	
11	**The Status of Clear Felling** in non-forest Areas (such as submergence area or Reservoir, approach roads), if any with Quantitative information required.	Not Applicable
12	**Status of Construction** (actual and/ or planned) a) Date of commencement (Actual and/or planned) b) Date of completion (Actual and/or planned)	 12th April 2009 24th February 2013
13	**Reason for the delay** if the project is yet to start	-
14	**Dates of Site Visits** a) The dates on which the project was monitored by the Regional Office on previous occasions, if any b) Date of site visits for this monitoring report.	 Director of MoEF, Bhopal visited on 09/09/2013. Scientist (D) of MoEF visited on 08/07/17, 17/07/18 & 26/07/19. Dy. Director-MoEF visited on 23.06.2021.