DCM SHRIRAM

BY E-Mail / R.P.A.D

Ref. : SAC-SHE-E-FL-08/19-20/01 Date: 29th May'19

To,
Member Secretary,
SEIAA (Gujarat), Gandhinagar

Subject: Six Monthly Compliance status of the Environmental clearances issued to us.

Reference: SEIAA, Environmental Clearance letter no.: SEIAA/GUJ/EC/4(d)/66/2019 dated 10th Jan 2019

Dear Sir,

We are enclosing herewith the six monthly compliance status of the environmental clearance for the period of OCT-18 to MAR-19, for your necessary record and kind information.

The same has been sent through mail as soft copy, as per the requirements.

Hope, you will find the same in order.

Thanking you,

Yours faithfully

K.R.Vaidya,
Sr. Vice president & Unit Head

Encl.: Annexure 1-16

CC to:

- MoEFCC-R.O, Bhopal
- CPCB-Z.O, Vadodara
- GPCB

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CIN No. L74899DL1989PLC034923 • (Formerly DCM Shriram Consolidated Ltd.)

DCM Shriram Limited

(Unit: Shriram Alkali and Chemicals, Jhagadia)

SIX MONTHLY ENVIRONMENT CLEARANCE COMPLIANCE REPORT

For the period of October -18 to March-19

[Letter no. SEIAA/GUJ/EC/4(d)/66/2019 dated 10st Jan 2019]

S. no.	CONDITIONS/RECOMMENDATION	STATUS
A	**Condition**	
	A.1 : Specific Condition:	
1.	Leak detection and repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines.	Complied If there is any leakages in the plant, it is attended immediately
2.	Unit shall provide adequate precautionary safety measures for storage & handling of chlorine as per the PESO standards.	Complied Unit has obtained permission for storage of Chlorine from CCE. Unit maintains a dummy (empty) tank for chlorine transfer in case of emergency. The stock quantity is maintained much below the licensed capacity.
3.	Continuous emission monitoring system (CEMS) shall be provided for monitoring of air pollutants and waste water discharge.	Online monitoring system for the parameter PM, SOx and NOx have been installed in flue gas stack of boiler, online monitoring of HCl and chlorine is done in HCl stack, Online chlorine monitoring in Hypo stack and real time data is transfer to CPCB and GPCB server. Online flow meter, pH meter, TSS meter & TOC meter have been provided in Effluent discharge line and the data is monitored through the DCS and transmitted to CPCB & GPCB server, as per the requirement. 
4.	The company shall install online chlorine gas detectors to detect leakage of chlorine at liquid chlorine storage tanks, chlorine bottling area/sodium hypo plant at vent pipe, HCl synthesis unit and electrolyser area. Caustic scrubber shall be provided in the HCl from the stack.	Complied 31 nos of Chlorine sensors have been provided at strategic locations within the plant premises. The alarm is provided in DCS for the values above TLV of each gas. Complied

	Dykes of adequate height shall be provided around the HCl acid tanks to collect the acid within the dyke wall in the event of catastrophic failure of the tank.	Adequate height dyke wall have been provided around the HCL acid tank
5.	Fugitive emissions shall be regularly monitored and data recorded chlorine sensors shall be installed in the chlorine storage area at lower level between the tanks.	Complied 31 nos of Chlorine sensors have been provided at strategic locations within the plant premises. The alarm is provided in DCS for the values above TLV of each gas.
6	All measures shall be taken to prevent soil and ground water contamination.	Complied All roads and working areas are either of RCC or asphalt cover to make it impervious in order to prevent soil contamination. All the work areas, storage areas are RCC and waste storage areas are also covered as per standard guidelines so as to prevent soil contamination. In Chemical storage area and chemical handling area, the RCC floor and collection & recovery system with bond walls are in place. Any civil activity occurring due to project activities is finally covered with pucca floor only.
7	Necessary approval from PESO and concerned Govt. Authorities shall be obtained commissioning of the project.	Complied Unit has obtained necessary permission from PESO and or storage of Chlorine from CCE. Unit maintains a dummy (empty) tank for chlorine transfer in case of emergency. The stock quantity is maintained much below the licensed capacity.
	A2 : Water	
8	Total water requirement for the proposed expansion project shall not exceed 14951 KL/Day. Unit shall recycle 460 KLD (Hence, fresh water requirement shall not exceed 14491 KLD and it shall be met through GIDC water supply only.)	

Month	Water Consumption Meter Reading (KL/M)	Water Consumed (KL/M)	Avg. Water Consumed (KLD)			Remark
			Industrial	Domestic	Total	
Quantity As per EC Condition			**14951**	**11**	**14962**	
Oct-18	5557930	335865	10824	10	10834	Never crossed the limit of Fresh water consumption of 14,962 KLD from that 14951 KLD for industrial and 11 KLD for domestic
Nov-18	5867621	309691	10313	10	10323	
Dec-18	6129224	261603	8429	10	8439	
Jan-19	6434221	304997	9829	10	9839	
Feb-19	6698386	264165	9424	10	9434	
Mar-19	7006595	308209	9932	10	9942	

9	Prior permission from the concerned authority shall be obtained from withdrawal of water.	Water is sourced from GIDC water supply. Approved letter for the same is attached as **Annexure#1.**
10	No ground water shall be tapped for the project requirements.	No ground water is tapped for the purpose.
11	The water meter shall be installed and records of daily and monthly water consumption shall be maintained.	Water meter is installed for the record of the daily & monthly water consumption, it is shown as below;  **Water meter for raw water consumption**
12	All effort shall be made to optimize water consumption by exploring best available technology (BAT).	Noted
13	The unit shall continuously strive to reduce, recycle of daily and monthly water consumption shall be maintained.	Being complied
14	Unit shall segregate industrial waste water stream as stream A and Stream B.	Unit has started segregation of industrial waste water stream A and stream B.
15	Stream A: Wastewater generated from Sulphate Recovery System (SRS)/HCl & Electrolyser (164 KLD) shall be treated in existing ETP and treated effluent shall be discharge into Jhagadia pipeline of NCTL for sea discharge.	Unit has segregate, Stream A-Wastewater generated from Sulphate Recovery System (SRS)/HCl & Electrolyser is treated in existing ETP and treated effluent shall be discharge into Jhagadia pipeline of NCTL for sea discharge.
16	Stream B: Wastewater generated from cooling tower (99 KLD). This shall also be treated in existing ETP and treated effluent shall be discharge into Jhagadia pipeline of NCTL for sea discharge.	Complied, Wastewater generated from cooling tower (99 KLD). This shall also be treated in existing ETP and treated effluent shall be discharge into Jhagadia pipeline of NCTL for sea discharge. Analysis for treated effluent carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad, Results of the same for the period Oct'18-Mar'19 are attached as **Annexure-2.**

<table>
<tr>
<td>17</td>
<td>Total discharge of waste water into GIDC drain for deep sea disposal after conforming to outlet norms prescribed by GPCB/CPCB/MoEF&CC shall not exceed 1080 KLD.</td>
<td>Complied

Details of treated effluent discharge for the month Oct-18 to March-19 is given below

<table>
<tr><th>Month</th><th>Effluent Discharge (KL/M)</th><th>Avg. Effluent Discharge (KLD)</th></tr>
<tr><td>Quantity As per EC Condition</td><td>-</td><td>1080</td></tr>
<tr><td>Oct-18</td><td>18337</td><td>592</td></tr>
<tr><td>Nov-18</td><td>20317</td><td>677</td></tr>
<tr><td>Dec-18</td><td>19536</td><td>630</td></tr>
<tr><td>Jan-19</td><td>20938</td><td>675</td></tr>
<tr><td>Feb-19</td><td>21654</td><td>773</td></tr>
<tr><td>Mar-19</td><td>21986</td><td>709</td></tr>
<tr><td>Minimum</td><td>18337</td><td>592</td></tr>
<tr><td>Maximum</td><td>21986</td><td>773</td></tr>
<tr><td>Average</td><td>20461</td><td>676</td></tr>
</table>
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<tr>
<td>18</td>
<td>The company shall provide adequate effluent treatment plants for stream A and stream B as mentioned above and it shall be operated regularly and efficiently so as to achieve the GPCB/CPCB/MoEF&CC norms.</td>
<td>Complied

The ETP is being operated regularly and efficiently. GPCB norms at the final outlet are being achieved. Results of the treated effluent is already provided in S. No. 16.

Parameters like pH, TSS,Temperature & TOC are monitored by on line meter and real time data is transferred to CPCB & GPCB server. Metering facility at the inlet and outlet of ETP is available and NCTL continuously monitors the same. Photos of the flow meters are already provided in Sr. No. 3.


Flow meter

pH meter

TSS meter

TOC meter</td>
</tr>
<tr>
<td>19</td>
<td>The unit shall provide continuous online monitoring system at the outlet of the ETP system and maintain records for the same.</td>
<td>Unit has provided continuous online monitoring system at the outlet of the ETP system and record is maintained.

Online flow meter, pH meter, TSS meter & TOC meter have been provided in Effluent discharge line and the data is monitored through the DCS and transmitted to CPCB & GPCB server, as per the requirement.</td>
</tr>
</table>

20	Unit shall take steps/measures for reuse/recycle of waste water as proposed in EIA/EMP report.	Noted
22	Treated sewage shall be utilized for gardening and plantation within premises after achieving prescribed GPCB norms.	Treated sewage water 11 KL/Day is disposed through Soak pit. Localized STPs have also been installed at the soak pit outlet for further treatment and it is use for gardening.
23	The unit shall join and participate financially and technically for any common environment facility / infrastructure as and when the same is taken up either by the GIDC or GPCB or any such authority created for this purpose by the Govt./GIDC.	Complied
24	Proper logbook of ETP, chemical consumption, quantities and qualities of effluent discharge and reuse, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Complied, Logbook of the ETP is maintained. Copy of the record is attached as **Annexure 3.** The reports are also given in soft copy and hard copy to GPCB monthly through XGN.
	A.3: Air	
25	Unit shall not exceed fuel consumption for the boilers, DG sets & proposed flaker plant – Molten salt heater # 3 as mentioned in the table.	We have noted the figures & we have stick within that.

Sr. No.	Stack Attached to	Stack Height (m)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e Air Pollutants	Air Pollution Control measures
Flue Gas Stacks (*Existing*)						
1.	Stack attached to CPP (PF Boiler)	85	Coal	698	PM	Adequate size of ESP with 7 field
					SO_X	Adequate stack height
					NO_X	-
2.	Stack Attached to CPP (CFBC Boiler)	115	Coal/ Hydrogen	1304 = ~50 000 NM3	PM	Adequate size of ESP with one additional field
					SO_2	Adequate stack height
					NO_X	-
3.	Auxiliary Boiler	58	F.O	Optional operation	PM, SO_X, NO_X	Adequate stack height
4.	D G Set (I)	58	F.O	36	PM, SO_X, NO_X	Adequate stack height
5.	D G Set (II)	58	F.O	36	PM, SO_X, NO_X	Adequate stack height
6.	D G Set (III)	58	F.O	18	PM, SO_X, NO_X	Adequate stack height
7	D G Set (IV)	58	F.O	18	PM, SO_X, NO_X	Adequate stack height
8	D G Set (V)	58	F.O	36	PM, SO_X, NO_X	Adequate stack height
9	Flaker plant – Molten salt heater # 1	40	H2 gas	34000 NM3	PM, SO_X, NO_X	Adequate stack height
10	Flaker plant – Molten salt heater # 2	40	H2 gas	34000 NM3	PM, SO_X, NO_X	Adequate stack height
Flue Gas Stacks (*Proposed*)						
1	Flaker plant – Molten salt heater # 3	40	H2 gas	34000 NM3	PM, SO_X, NO_X	Adequate stack height

26	Unit shall provide adequate APCM as mentioned in the above table.	Complied ESP is installed as Air pollution control systems for Flue gas in boilers. Efficiency of the ESP is 99.9 %. Alkali Scrubber for Hypo plant and alkali and water scrubber for HCl plant are provided as APCM. Efficiency of alkali scrubber is 100% and water scrubber is 98%. Details of APCM installed is given in **Annexure 4.** All air pollution control systems are operating efficiently and effectively and the outlet concentrations are within the GPCB norms. Monthly monitoring of flue gas stack and process vent emission is carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad.
27	Third party monitoring of the functioning of the ESP along with its efficiency shall be carried out once in a year through reputed institute /organization.	Complied We have carried out 3rd party monitoring to check performance of ESP through Bharuch Enviro Infrastructure Ltd. (BEIL), approved agency. The copy of the Certificate is attached as **Annexure-5**

28	Unit shall provide APCM for proposed process vents as per the below table.	Noted, We have provided adequate stack for each of the stacks/vents.

Sr. No.	Source of emission with capacity	Type of emission	Stack/Vent Height (meter)	Air Pollution Control measures
Process Vent Stacks (Existing)				
1.	HCL Plant #1	HCl, Cl_2	30	Water/Caustic Scrubber
2.	HCL Plant #2	HCl, Cl_2	30	Water/Caustic Scrubber
3.	HCL Plant #3	HCl, Cl_2	30	Water/Caustic Scrubber
4.	HCL Plant #4	HCl, Cl_2	30	Water/Caustic Scrubber
5.	Sodium Hypo Chlorite Plant #1	Cl_2	30	Caustic Scrubber
6.	Sodium Hypo Chlorite Plant #2	Cl_2	30	Caustic Scrubber
Process Vent Stacks (Proposed)				
8.	HCL Plant #5	HCl, Cl2	30	Water/Caustic Scrubber
9.	Sodium Hypo Chlorite Plant #2	Cl2	30	Caustic Scrubber

29	Adequate air pollution control measures (APCM) shall be provided.	ESP is installed as Air pollution control systems for Flue gas in boilers. Efficiency of the ESP is 99.9 %. Alkali Scrubber for Hypo plant and alkali and water scrubber for HCl plant are provided as APCM. Efficiency of alkali scrubber is 100% and water scrubber is 98%. Details of APCM installed are given in **Annexure 4.** All air pollution control systems are operating efficiently and effectively and the outlet concentrations are within the GPCB norms. Monthly monitoring of flue gas stack and process vent emission is carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad.
30	Flue gas emission & process gas emission (Whichever is applicable) shall confirm to the standard prescribed by the GPCB/CPCB/MOEf&CC. At no time, emission level should go beyond the stipulated standards.	Analysis report of flue gas stacks are given in **Annexure#6 &** Analysis report for process gas stacks are attached as **Annexure#7**
31	The National Ambient Air Quality Emission standards issued by the ministry vide G. S. R. No. 826 (E) dated 16th November, 2009	Complied, AAQ monitoring is carried out once in a month. Monitoring and testing is carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad, AAQM reports are attached as **Annexure #8** Analysis of 6 months (Oct-18 to Mar-2019) report summary of AAQM are given as below;

Location of AAQM	Results (permissible limit) & unit in $\mu g/m^3$					
	PM_{10} (100)	$PM_{2.5}$ (60)	SOx (80)	NOx (80)	HCl (200)	Cl_2 (100)

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

Near Salt Yard	Max.	61	43	31	34	BDL	BDL
	Min.	48	32	20	25	BDL	BDL
	Average	54	38	26	30	BDL	BDL
Near Main Gate	Max.	61	41	33	36	BDL	BDL
	Min.	49	30	23	28	BDL	BDL
	Average	56	36	29	32	BDL	BDL
Near TSDF	Max.	54	39	34	36	BDL	BDL
	Min.	42	30	19	22	BDL	BDL
	Average	50	34	27	29	BDL	BDL

Ambient air quality results are well within standard prescribed limits.

32 Unit shall take adequate measures to control fugitive emission as below:

i. All the joints, flanges, pumps, glands, seals, valves shall be maintained in good condition through timely predictive and preventive maintenance.

Noted

All the joints, flanges, pumps, glands, seals, valves periodical inspection & maintenance carried out & shall be maintained in good condition. All Caustic, HCl & H2SO4 line flange joint covered with flange guard to prevent chemical splash.

ii. Regularly workplace monitoring shall be carried out for HCl & Cl2 at various locations within plant.

Fugitive emission monitoring at work place is carried out once in a month. Online meters of Cl_2 is located at following locations. Results for the month of Oct-18 to Mar-19 is as following;

Location	Parameter	Range in ppm			TWA limit in ppm
		Max	Min	Avg.	
Cell house	Cl_2	0.13	0.11	0.12	0.5
Old Cl_2 bottling shed	Cl_2	0.18	0.13	0.15	0.5
New Cl_2 bottling shed	Cl_2	0.13	0.10	0.12	0.5
Cl_2 Storage area	Cl_2	0.17	0.10	0.13	0.5

Under the Gujarat Factory Rule 12-B form no. 37 is maintained. Register for the same is attached as **Annexure 9**.

iii. Boundary wall as wind breaker shall be provided to restrict the dispersion of odor dust from the site.

Being complied

iv. Well developed green belt is provided at the existing site and shall be maintained for the proposed project.

Greenbelt has already been developed at site and in GIDC land adjacent to the boundary to mitigate the effect of fugitive emission all around the plant.




v. All tanks being used for storage of odorous chemicals/products shall be connected to vacuum system. Manometers/vacuum gauges shall be provided on these tanks. The vacuum shall be monitored on daily basis and actions shall be taken accordingly.

Complied

vi. All pumps handling hazardous chemicals shall be provided with mechanical seals to prevent fugitive emission, wherever possible magnetic couple pump shall be used.

All vessels used in manufacturing process are closed.

vii. Manual Handling of various chemicals shall be avoided and shall be designed by implementing latest automation technology.

Complied
For storage of Chlorine, unit has obtained necessary license from PESO and all conditions laid down in the license are implemented. Industry are follows the best industrial practices for storage of Chlorine.
Safety norms adopted during design stage for safe conveyance of chlorine to the nearby costumers through the pipeline. The same is being monitored at periodic intervals.
Unit has provided chlorine sensors with on/off valves for conveyance of chlorine through pipelines.
Chlorine sensors are as below;


viii. All venting equipments shall have vapor recovery system. Measuring instruments with sound alarm and having strategically placed sensing elements shall be provided for alerting the personnel in case of any escape of gases like, chlorine. Interlock with blower shall be provided.

Complied
31 nos of Chlorine sensors and 22 nos of Hydrogen sensors have been provided at strategic locations within the plant premises. The alarm is provided in DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

<table>
<tr><td>33</td><td>Measures shall be taken to reduce the process vapors emissions as far as possible. All venting equipment shall have vapour recovery system.</td><td>Complied</td></tr>
<tr><td>34</td><td>The fugitive emission in the work zone environment shall be monitored. The emission shall confirm to the standards prescribed by the concerned authorities from time to time (e.g. Director of Industrial Safety & Health). Following indicative guideline shall also be followed to reduce the fugitive emission.

➢ Internal roads shall be either concerned or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
➢ Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
➢ A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.</td><td>Complied
Monitoring of fugitive emission is carried out at work zone environment in the plant at conference room of admin building, power plant control room, caustic plant control room and admin building. Parameters like PM, CO, SO2 and CO_2 are measured in the work place.

Fugitive emission monitoring at work place is carried out once in a month. Online meters of Cl_2 is located at following locations. Results for the month of Oct-18 to Mar-19 is as following;

<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Parameter</th><th colspan="3">Range in ppm</th><th rowspan="2">TWA limit in ppm</th></tr>
<tr><th>Max</th><th>Min</th><th>Average</th></tr>
<tr><td>Cell house</td><td>Cl_2</td><td>0.21</td><td>0.11</td><td>0.15</td><td>0.5</td></tr>
<tr><td>Old Cl_2 bottling shed</td><td>Cl_2</td><td>0.22</td><td>0.13</td><td>0.17</td><td>0.5</td></tr>
<tr><td>New Cl_2 bottling shed</td><td>Cl_2</td><td>0.12</td><td>0.06</td><td>0.09</td><td>0.5</td></tr>
<tr><td>Cl_2 Storage area</td><td>Cl_2</td><td>0.17</td><td>0.09</td><td>0.13</td><td>0.5</td></tr>
</table>
Under the Gujarat Factory Rule 12-B form no. 37 is maintained. Register for the same is attached as Annexure 09.

All internal roads are either concreted or asphalted

Water sprinkler being done to suppress airborne dust

Greenbelt has already been developed at site and in GIDC land adjacent to the boundary to mitigate the effect of fugitive emission all around the plant.

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<tr><td></td><td></td><td>   </td></tr>
<tr><td>35</td><td>Airborne dust at all transfer operation/points shall be controlled either by spraying water or providing enclosures.</td><td>Handling & transportation of coal is carried out through coal conveyers only. Photograph for coverer system is given as following;
 
Enclosure is provided at coal loading and unloading operation. Photographs are provided as above.</td></tr>
<tr><td>36</td><td>Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOx, Cl2, HCl shall be carried out and its record shall be maintained.</td><td>AAQ monitoring is carried out once in a month. Monitoring and testing is carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad, AAQM reports are attached as Annexure #8 Analysis of 6 months (Oct-18 to Mar-2019) report summary of AAQM are given as below;
<table>
<tr><th colspan="2" rowspan="2">Location of AAQM</th><th colspan="6">Results (permissible limit) & unit in µg/m^3</th></tr>
<tr><th>PM_{10} (100)</th><th>$PM_{2.5}$ (60)</th><th>SOx (80)</th><th>NOx (80)</th><th>HCl (200)</th><th>Cl_2 (100)</th></tr>
<tr><td rowspan="3">Near Salt Yard</td><td>Max.</td><td>61</td><td>43</td><td>31</td><td>34</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>48</td><td>32</td><td>20</td><td>25</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>54</td><td>38</td><td>26</td><td>30</td><td>BDL</td><td>BDL</td></tr>
<tr><td rowspan="3">Near Main Gate</td><td>Max.</td><td>61</td><td>41</td><td>33</td><td>36</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>49</td><td>30</td><td>23</td><td>28</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>56</td><td>36</td><td>29</td><td>32</td><td>BDL</td><td>BDL</td></tr>
<tr><td rowspan="3">Near TSDF</td><td>Max.</td><td>54</td><td>39</td><td>34</td><td>36</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>42</td><td>30</td><td>19</td><td>22</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>50</td><td>34</td><td>27</td><td>29</td><td>BDL</td><td>BDL</td></tr>
</table>
Ambient air quality results are well within standard prescribed limits.</td></tr>
<tr><td>37</td><td>Stack /Vents (Whichever is applicable) of adequate height shall be provided as per the prevailing norms for flue gas emission /process gas emission.</td><td>We have provided adequate stack height for each of the Stacks/Vents.</td></tr>
<tr><td>38</td><td>All the reactors/vessels used in the manufacturing process shall be closed to reduce the fugitive emission.</td><td>Complied
All the vessels used in manufacturing process are closed.</td></tr>
</table>

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Jhagadia, Dist. Bharuch.

39	Flue gas emission & process gas emission shall confirm to the standards prescribed by the GPCB/CPCB/MoEF&CC	Complied Analysis report of flue gas stacks are given in **Annexure#6 &** Analysis report for process gas stacks are attached as **Annexure#7**
	A.4 : Solid / Hazardous Waste:	
40	The company shall strictly comply with the rules and regulation with regards to handling and disposal of hazardous waste in accordance with the hazardous waste (Management and transboundary movement) Rule 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection /treatment / storage /disposal of hazardous wastes.	Complied We are complying to the Hazardous waste imported, handling and storage rules'2016, which supersedes HW Rules'2008 SAC has taken CCA from GPCB for collection/ treatment/ storage disposal of hazardous waste. Copy of CCA no.:AWH-99209 valid upto 03/07/2021 is attached as **Annexure 10**
41	Any by product which fall under the preview of the hazardous waste (Management and transboundary movement)	Noted
42	Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facilities with pucca bottom and leachate collection facility, before its disposal.	Being complied
43	Management of hazardous waste shall be as below.	Complied Discarded barrels are disposed to GPCB approved recycler M/s. BEIL. Bags are used for making tarpaulin through in-house processing after decontamination. Used oil is sold to authorized recyclers M/s. R.K. Steel, Bharuch having valid consent- AWH -81231 to accept used oil. Copy of manifest is attached as **Annexure-11**

Sr. No	Type / Name of Hazardous Waste	Source of generation	Category and Schedule as per HW rules	Quantities Generated (MTPA)			Disposal Method
				Existing	Proposed	Total after Expansion	
1.	Used or spent Oil	DG Set	Schedule-1 5.1	200	0	200	Sold to Authorized re-processor
2.	Cotton wastes / residues containing oil	DG Set, Maintenance operation	Schedule-1 5.2	0	1.5	1.5	Used internally in boiler
3.	Empty Barrels / Containers / Liners	Entire plant	Schedule-1 33.1	200	0	200	Reused sold to authorized vendor
4	Chemical sludge from wastewater treatment	Waste water treatment plant	Schedule-1 35.3	3	1	4	Disposed in captive SLF or common TSDF
5	Dilute Sulphuric acid (70-78%)			7752	3660	11412	Collection, storage, transportation and will be sold authorized actual users as per rule 9 of hazardous & other waste (Management & Transboundary movement) Rules, 2016 as amended

44	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF.	Unit has disposed ETP sludge and Brine sludge in the Secured Landfill Facility (SLF) within the factory premises. The design of the facility is as per the recommendations of CPCB with pucca impervious bottom & leachate collection facility. 
45	Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provision under the motor Vehicle Act, 1988, and rule made there under.	Unit has ensured that all vehicle moving inside the plant must have valid license, PUC, RC book, etc as per the motor vehicle Act, 1988, & rule made there under.
46	The design of the trucks/tankers shall be such that there is no spillage during transportation.	Complied

47	All possible efforts shall be made for co-processing of the hazardous waste prior to disposal into TSDF/CHWIF.	Complied Unit is using the chemical bags for making tarpaulin after decontamination. Unit is selling spent oil to registered recyclers. The ETP sludge is disposed in captive SLF.
48	Management of non hazardous waste shall be as below.	Complied Brine sludge is disposed in the TSDF within the factory premises. Unit has 2 Nos of 500 MT each closed silos for fly ash storage, no ash pond exists for storage of fly ash. The fly ash is supplied to the manufacturers of cement -M/s Ambuja cement, M/s JK Lakshmi cement and M/s Litecon Industries Pvt. Ltd. manufacturing cement concrete blocks, bricks, panels, etc.

Sr. No.	Waste Type	Source	Applicable Rule	Quantity (MTPA)			Mode of Disposal
				Existing	Proposed	Total	
1	Brine Sludge	Brine purification of chlor alkali process	None	23000	7000	30000	Although Brine sludge is not hazardous waste, the same is disposed off to secured landfill facility developed inside the factory premises. Membership of nearby CTSDF will also be explored for its disposal.
2	Fly Ash	Captive power plant	The Fly Ash Notification, 1999 as amended		0	No increase in quantity	Fly Ash is given to Cement & Brick manufacturers

49	Management of other wastes shall be as below.	Noted
50	Management of other wastes shall be as below.	

Sr. No.	Waste Type	Source	Applicable Rule	Quantity (MT/Annum)	Management Method
1.	Municipal Solid Waste	Canteen, Office blocks	Solid Waste Management Rules, 2016	Construction phase = 1.5 MT/day Operation phase = 0.15 MT/day	Shall be handled as per the Solid Waste Management Rules, 2016 as amended from time to time
2.	Biomedical Wastes	On-site Occupational Health centre	Bio-Medical Waste Management Rules, 2016 as amended	As and when generated	Shall be handled as per the Bio-Medical Waste Management Rules, 2016 as amended from time to time
3.	Used Lead Acid Batteries	Company owned vehicles, other devices (such as UPS) being operated within the site	The Batteries (Management & Handling Rules), 2001 as amended	As and when generated	Shall be handled as per the Batteries (Management & Handling) Rules, 2010 as amended from time to time

4.	Electronic wastes	Entire Site	The E-Waste (Management) Rules, 2016 as amended	As and when generated due to equipment obsolescence	Shall be handled as per the E-Waste (Management) Rules, 2016 as amended from time to time
5.	Construction and Demolition (C&D) Wastes	Entire Site	The Construction and Demolition Waste Management Rules, 2016	Generated during project Construction phase & maintenance / repair work during Operation Phase	Shall be handled as per the Construction and Demolition Waste Management Rules, 2016 as amended from time to time
6.	Plastic wastes	Entire Site (Office blocks, Canteen etc.)	The Plastic Waste Management Rules, 2016 as amended	Generated during use of plastic items	Shall be handled as per the Plastic Waste Management Rules, 2016
7.	Non-Hazardous metallic scrap, wooden & paper scrap	Entire Site	None	Generated during equipment obsolescence and discarding of such items as wastes	Sold to scrap dealers duly approved by the company
8.	Waste Glass wool	Project and maintenance activities	None	20 Ton	Disposed in Common TSDF
9.	PVC/FRP waste	Project and maintenance activities	None	20 Ton	Disposed in Common TSDF

A.5	**Safety**	
51	The occupier/project proponent shall strictly comply the provisions under the Factories Act 1948 and the Gujarat Factories Rules 1963	Complied Unit is complying with the provisions of Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 and Factory Act'1948. The Onsite emergency plan is in place and periodic mock drills are carried out as per the requirement. Applicability of the above rules and their compliance is given as **Annexure-12**

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Dist. Bharuch

<table>
<tr><td>52</td><td>The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.</td><td>Complied
We have obtained the approval from the Directorate of Factory for Factory operation and Chief controller of explosive for storage of Chlorine, Chlorine tonner and Hydrogen.
The latest approvals from CCE are as under:
<table>
<tr><th>Name of the Chemical</th><th>Type of Storage</th><th>Quantity</th><th>Nos. of Storage</th><th>License No.</th><th>Valid up to</th></tr>
<tr><td>Chlorine</td><td>Cylinders</td><td></td><td>2016 Nos.</td><td>G/HO/GJ/06/191 (G1346)</td><td>30.09.2020</td></tr>
<tr><td>Chlorine</td><td>Storage tanks</td><td>492.5 MT</td><td>05 tanks</td><td>S/HO/GJ/03/320 (S 1605)</td><td>30.09.2020</td></tr>
<tr><td>Hydrogen</td><td>Cylinders</td><td></td><td>744 Nos.</td><td>G/HO/GJ/05/350 & G/HO/GJ/06/335 (G1545)</td><td>30.09.2019</td></tr>
<tr><td>Petroleum-Class-B</td><td>Tanks</td><td>665 KL</td><td></td><td rowspan="2">P/HQ/GJ/15/1740 (P12101)</td><td rowspan="2">31.12.2020</td></tr>
<tr><td>Class-C</td><td>Tanks</td><td>1950 KL</td><td></td></tr>
</table></td></tr>
<tr><td>53</td><td>Main entry and exit shall be separate and clearly-marked in the facility.</td><td>Complied.
Unit have Main entry gate and Two material gate for smooth movement of Vehicle.</td></tr>
<tr><td>54</td><td>Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency around the premises.</td><td>Complied.
All the Internal roads are RCC and sufficiently wide for vehicle movement, Unit have enough parking space for tankers /Trucks inside the premises.</td></tr>
<tr><td>55</td><td>Storage of flammable chemicals shall be sufficiently away from the production area.</td><td>Complied.
Hydrogen handling area is separate with all necessary statutory precautions.</td></tr>
<tr><td>56</td><td>Sufficient number of fire extinguishers shall be provided near the plant and storage area.</td><td>Complied.
Sufficient Fire Extinguisher i.e Mechanical foam type, Dry Chemical powder type, Carbon dioxide type provided at strategic locations in the plant, Fire & security dept. periodically check and maintain the record.</td></tr>
<tr><td>57</td><td>All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling hazardous chemicals.</td><td>Complied
Necessary engineering control have been provided, PPE's are used by the person handling the chemical and Unit has On site Emergency plan with defined roles and responsibility to handle incidents & accidents. The last date of revision of plan is Jan-19, the periodic mock drills are carried out.
• Hydrogen & Chlorine sensors with alarm installed at plant area and monitoring done through DCS
• 31 Chlorine sensors have been installed for work place chlorine monitoring at strategic places in factory with display and alarm indication at DCS.
• All Chlorine system connected to vacuum & diverted to the neutralization system. Waste Chlorine is absorbed in Dilute sodium hypochlorite solution and Sodium HYPO is produced
• Effective water spraying done on chlorine storage tank.
• Non sparking tools used for hydrogen compressor, flammable material handling area
• Unit also have well designed Fire hydrant system with stand-by</td></tr>
</table>

<table>
<tr><td></td><td></td><td>pump facility and reservoir.
• Unit have two fire tender with well trained fire fighting staff to control fire.
• Unit also installed different types of fire extinguishers at strategic locations as per standards.</td></tr>
<tr><td>58</td><td>All the toxic/hazardous chemicals shall be stored in optimum quantity and all necessary permissions in this regard shall be obtained before commencing the expansion activities.</td><td>Complied
Unit has stored optimum quantity of all toxic/hazardous chemical.
We have obtained the approval from the Directorate of Factory for Factory operation and Chief controller of explosive for storage of Chlorine, Chlorine tonner and Hydrogen.</td></tr>
<tr><td>59</td><td>The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report</td><td>Noted</td></tr>
<tr><td>60</td><td>Flame proof electrical fittings shall be: provided in Hydrogen area of the plant premises.</td><td>Complied.
All the fittings are flame proof in Hydrogen area.</td></tr>
<tr><td>61</td><td>Storage of hazardous chemicals shall be minimized and it shall be in multiple small capacity tanks / containers instead of one single large capacity tank / containers.</td><td>Complied
Unit is maintaining minimum stock levels of hazardous chemicals within the campus.

Unit has considered small storage tanks for storage of hazardous chemicals. the details of storage facilities are as under:
<table>
<tr><th rowspan="2">S. No.</th><th rowspan="2">Chemicals / Items</th><th rowspan="2">State</th><th rowspan="2">Hazard Involved</th><th rowspan="2">Means of Storage</th><th>No. of Vessels/Bags/ Tons</th></tr>
<tr><th>Existing</th></tr>
<tr><td>1</td><td>Chemicals (including Barium Carbonate, Sodium Carbonate, Sodium Sulphite)</td><td>Solid</td><td>Corrosive</td><td>MT stored in chemical storage shed</td><td>400 MT</td></tr>
<tr><td>2</td><td>H_2SO_4 (98%)</td><td>Liquid</td><td>Corrosive</td><td>Tank</td><td>75.4 M3 X 1 tank</td></tr>
<tr><td>3</td><td>Blended Coal</td><td>Solid</td><td>Flammable</td><td>MT in Coal Yard</td><td>7,31,000 MT</td></tr>
<tr><td>4</td><td>Furnace Oil</td><td>Liquid</td><td>Flammable</td><td>Tank</td><td>1110 MT</td></tr>
<tr><td>5</td><td>Caustic Soda Lye</td><td>Liquid</td><td>Corrosive</td><td>Tanks</td><td>1100 M3 X 3 tank
1923 M3 X 2 tank</td></tr>
<tr><td>6</td><td>Caustic Soda Flakes</td><td>Solid Crystal</td><td>Corrosive</td><td>Stored in chemical storage shed</td><td>1200 Tons</td></tr>
<tr><td rowspan="2">7</td><td rowspan="2">Chlorine</td><td>Liquid</td><td>Toxic, Corrosive</td><td>Tanks</td><td>100 MT X 4 tank
92.5 MT X 1 tank</td></tr>
<tr><td>Liquid</td><td>Toxic, Corrosive</td><td>Tonners</td><td>2016 nos</td></tr>
</table></td></tr>
</table>

		8	Hydrochloric Acid	Liquid	Corrosive	Tanks	127 M3 X 4 265 M3 X 2
		9	Sodium hypochlorite	Liquid	Corrosive	Tanks	132.7 M3 X 2 tank 253.7 M3X 1 tank
		10	Dilute Sulphuric Acid	Liquid	Corrosive	Tank	75.4 M3X 1 tank
		11	Hydrogen gas	Gas	Flammabl e	Gas Holder	1500 M3
62	All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/dyke walls shall be provided for storage tanks for Hazardous Chemicals	Complied Dyke walls with collection pits and recovery system have been provided around the storage tanks of hazardous chemicals 					
63	Handling and charging of the chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.	Complied Handling and charging of chemicals being done in closed circuits. Wherever possibility of exposure is perceived, necessary PPEs provided. SOP No. SAC/PRD/WI-34/V.1.1/16.01.2017 of the Handling of chemicals is followed.					
64	Tie up shall be done with nearby health care unit / doctor for seeking immediate medical attention in the case of emergency.	Complied Unit maintains an Occupational Health Centre within the complex for immediate first aid. The OHC is manned by a regular qualified doctor and qualified male nurses.  Besides that unit has tied up with the nearest health care unit at Bharuch, Ankleshwar, Jhagadia and Vadodara for immediate medical support. Medical check- up of around 530 employees has been carried out in last six months. Tests like Physical examination, Spirometry - Lung function test, Pathological Blood tests, Audiometry , X Ray chest, Test for Hepatitis B, was carried out. 06 nos. of tests was done for employee. The six monthly medical checkup of the employees are conducted at our OHC, as per the requirement.					
65	Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.	Complied All necessary PPEs have been provided to workers and they are continuously encouraged for their use. PPE boxes are kept in different					

<table>
<tr><td></td><td></td><td>sections of the plant with all necessary PPEs.
  </td></tr>
<tr><td>66</td><td>First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity</td><td>Complied
• The List of Chemicals used, their corresponding antidotes and quantities of antidotes are available at various locations in the plant. The Unit is inspecting the contents of the First Aid box by OHC staff on monthly basis. The records of the same are available with OHC.
• Provision of First aid boxes are kept in strategic locations in the plant.
Antidotes for the chemicals are kept at OHC. Locations of the First Aid Box is given as below;
<table><tr><th>S. No.</th><th>First Aid box location</th></tr><tr><td>1</td><td>Occupational Health Centre</td></tr><tr><td>2</td><td>Ambulance</td></tr><tr><td>3</td><td>Fire Tender</td></tr><tr><td>4</td><td>Process Plant Control Room</td></tr><tr><td>5</td><td>Bottling Plant Process 1</td></tr><tr><td>6</td><td>Bottling Plant 2</td></tr><tr><td>7</td><td>Tank Farm</td></tr><tr><td>8</td><td>Old Material Gate</td></tr><tr><td>9</td><td>Canteen</td></tr><tr><td>10</td><td>Power Plant Control Room</td></tr><tr><td>11</td><td>P60 - 11KV Switchgear Room</td></tr><tr><td>12</td><td>CHP MCC Room</td></tr><tr><td>13</td><td>Old PMCC 2nd Floor</td></tr><tr><td>14</td><td>AAC Project Site</td></tr><tr><td>15</td><td>New Material Gate</td></tr></table>Sample photograph of First aid box in one of the locations (PMCC) is:
  </td></tr>
</table>

<table>
<tr><td>67</td><td>Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.</td><td>Complied
Form no-32 being maintained for record of Occupational health of employees. Copy of the record is attached as Annexure-13

Pre- employment medical checkup is conducted for all the employees and six monthly medical checkup being done. Records of the above being maintained. Copy of the record is attached as Annexure-14</td></tr>
<tr><td>68</td><td>Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules,</td><td>Complied
The drivers of the vehicles transporting the chemicals are trained. TREM card and MSDS are provided with each vehicle transporting the hazardous chemicals.</td></tr>
<tr><td>69</td><td>The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report</td><td>Noted</td></tr>
<tr><td>70</td><td>Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.</td><td>Complied
as per point no.52</td></tr>
<tr><td>71</td><td>Training shall be imparted to all employees on safety and health aspects of chemicals handling. Training to all employees on handling of chemicals shall be conducted and records maintained.</td><td>Complied
Unit is regularly imparting internal and external training to the employees and other stakeholders on safety aspects of chemical being handled. Training details during October'18-March'19 is given as below:
<table>
<tr><th>S. No.</th><th>Training programme</th><th>No. of persons</th><th>No. Hrs. for each person</th><th>Total Nos. of Hrs</th></tr>
<tr><td>1</td><td>Induction- Contract employees</td><td>2849</td><td>1/2 hrs</td><td>1425</td></tr>
<tr><td>2</td><td>Induction- Company employees</td><td>49</td><td>1</td><td>49</td></tr>
<tr><td>3</td><td>On the job safety training including practical demo on use of PPEs</td><td>1721</td><td>1/2 hrs</td><td>861</td></tr>
<tr><td>4</td><td>Respiratory protection (SCBA operation & Gas mask)</td><td>88</td><td>1/2</td><td>44</td></tr>
<tr><td>5</td><td>Chlorine handling awareness training</td><td>60</td><td>1/2</td><td>30</td></tr>
<tr><td>6</td><td>Health awareness training programme</td><td>26</td><td>1</td><td>26</td></tr>
<tr><td>7</td><td>Behavior Based Safety</td><td>68</td><td>8</td><td>544</td></tr>
<tr><td>8</td><td>Electrical safety</td><td>21</td><td>1</td><td>21</td></tr>
<tr><td>9</td><td>EHS Conference , Seminar & Work shops</td><td>39</td><td>8</td><td>312</td></tr>
<tr><td>10</td><td>Safety during chemical handling(For Driver)</td><td>251</td><td>1</td><td>251</td></tr>
</table></td></tr>
</table>

<table>
<tr><td></td><td></td><td>11</td><td>Awareness training on Water saving</td><td>23</td><td>1</td><td>23</td></tr>
<tr><td></td><td></td><td></td><td>TOTAL</td><td>5195</td><td></td><td>3586</td></tr>
<tr><td>72</td><td>Effective safety precaution shall be taken for chemical storage, process handling and transportation hazard.</td><td colspan="5">Complied.
Unit has taken all necessary precaution for storage the chemical like, Sufficient storage capacity tank with dyke wall with collection pit.
Unit also provide all required documents such as TREM card, MSDS etc. to drivers while transporting our material and training programme is also imparted for Drivers.</td></tr>
<tr><td>73</td><td>Unit shall prepare and implement Sops for safe operation on the works.</td><td colspan="5">Complied.
Unit has made SOPs for different plant activities & work accordingly while operation.</td></tr>
<tr><td>74</td><td>The unit shall comply with the statutory provision of safety audit & its compliance report</td><td colspan="5">Complied
Unit has carried out Safety audit as per statutory requirement and also submit the compliance report to concern Government authorities timely.</td></tr>
<tr><td>75</td><td>Effective steps shall be taken for prevention of fire, explosion & toxic release.</td><td colspan="5">Complied
Necessary engineering control have been provided to handling the chemical and Unit has On site Emergency plan with defined roles and responsibility to handle incidents & accidents.
The last date of revision of plan is Jan-19, the periodic mock drills are carried out.
SAC already has well laid fire hydrant network in the premises and also provide Fire Extinguisher at strategic locations.</td></tr>
<tr><td>A-6</td><td>NOISE</td><td colspan="5"></td></tr>
<tr><td>76</td><td>The overall noise level in & around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.</td><td colspan="5">Complied
All possible noise control measures like acoustic insulation, hoods, silencers, enclosures, vibration dampers etc. on all sources of noise generation like Compressors, DG sets, Turbine etc. have been adopted.
Ambient noise level measurement record is as under:
<table>
<tr><th rowspan="2">S. No.</th><th rowspan="2">Location</th><th rowspan="2">Area / Zone</th><th rowspan="2">Time</th><th colspan="3">Results in dB (A)</th></tr>
<tr><th>Max.</th><th>Min.</th><th>Average</th></tr>
<tr><td>1</td><td>Nr. Parking area</td><td rowspan="4">Industrial</td><td>Day time</td><td>69.9</td><td>67.6</td><td>68.5</td></tr>
<tr><td>2</td><td>Plant boundary at west side</td><td>Day time</td><td>73.9</td><td>70.8</td><td>72.6</td></tr>
<tr><td>3</td><td>Near Main Gate</td><td>Day</td><td>74.1</td><td>69.4</td><td>71.7</td></tr>
<tr><td>4</td><td>Material Gate</td><td>Day</td><td>74.1</td><td>72.6</td><td>73.2</td></tr>
</table>
Standard of Ambient Noise Level as per Noise Guidelines
<table>
<tr><th rowspan="2">Area Code</th><th rowspan="2">Category of Area / Zone</th><th colspan="2">Limits in dB (A)</th></tr>
<tr><th>Day Time From 6.00 am to 9.00 pm</th><th>Night Time From 9.00 pm to 6.00 am</th></tr>
<tr><td>A</td><td>Industrial Area</td><td>75</td><td>70</td></tr>
<tr><td>B</td><td>Commercial Area</td><td>65</td><td>55</td></tr>
<tr><td>C</td><td>Residential Area</td><td>55</td><td>45</td></tr>
<tr><td>D</td><td>Silence Zone</td><td>50</td><td>40</td></tr>
</table></td></tr>
<tr><td>A-7</td><td>CLEANER PRODUCTION & WASTE MINIMISATION</td><td colspan="5"></td></tr>
<tr><td>77</td><td>The unit shall undertake the cleaner production assessment study through a reputed institute / organization & shall form a CP team in the company. The</td><td colspan="5">Complied
Cleaner product team already exists. As per their recommendations, Unit has adopted membrane technology process for caustic production & Fluidized Bed combustion in boiler, using hydrogen for caustic</td></tr>
</table>

	recommendations thereof along with the compliance shall be furnished to the GPCB.	concentration purpose, which are cleaner production method available as on date
78	The company shall undertake various waste minimization measure such as:	Complied and Noted Metering of quantities of each active ingredient being done and optimized to reduce waste Hydrogen is reused in making HCl, and as fuel substitute. Chlorine is reused for making Sodium Hypochlorite Caustic lye is filled by automatic filling and chlorine tonners are also filled with automatic filling with cut-off adjustment and overfilling alarm Dry cleaning of floor is done Cleaning is done with high pressure hoses only Preventive maintenance schedule is in place and being followed
79	Using washed salt (containing less impurities) in place of unwashed salt.	Complied. Unit used only washed salt.
80	Installation of Sulphate Removal System through nano-filtaration.	Sulphate removal system is installed.
	GREEN BELT & OTHER PLANTATION	
81	The unit shall develop green belt within premises. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road side & suitable open areas in the GIDC estate, nearby schools, gram panchayat areas & other open areas in consultation with the GIDC/ local bodies/ GPCB & submit an action plan of plantation for next three years to the GPCB.	Complied Unit has developed a green belt within premises (i.e. **103600** m^2) as per the CPCB guidelines and directions issued by GPCB. Type of trees planted are silver oak, poplar, Neem, platform, palm etc.   We have planted 700 saplings during World Environment Day'18 celebration.   We have also expanded the greenbelt in GIDC estate and have planted 3500 saplings back side area of SIKA India Pvt. Ltd. in GIDC area in 2018-19. GIDC has issued a Certificate of Plantation to us. Copy of the certificate is attached as **Annexure-15**

82	Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.	Complied Drip system & Sprinkler system used for watering at Green belt within premises
B	**OTHER CONDITIONS :**	
83	Unit shall comply all the applicable standard condition prescribed in office memorandum(OM) published by MoEF&CC vide no.F.No.22-34/2018-IA,III dated 09/08/2018	Noted
84	In case of use of spray dryer, the unit shall provide the adequate & efficient APCMs with spray dryer so that there should not be any adverse impact on human health & environment. Unit shall carry out third party monitoring of the proposed spray dryer & its APCM through the credible institutes and study report for impacts on Environment and Human Health shall be submitted to GPCB every year along with half yearly compliance report.	Noted
85	The project proponent shall allocate the separate fund for Corporate Environment Responsibility(CER) in accordance to the MoEFCC's Office Memorandum No. F.No.22-65/2017-IA.III dated 0f/05/2018 to carry out the activity under CER in affected area around the project. The entire activities proposed under CER shall be monitored and the monitoring report shall be submitted to the regional office of MoEFCC as a part of half-yearly compliance report and to district collector. The monitoring report shall be posted on the website of the project proponent.	We have allotted 0.5% of the project investment for the CER activities. Totaling 175 lakh distributed for 5 year that is 35 lakh per annum.
86	The provisions of the Solid Waste Management Rules. 2016, e-Waste (Management) Rules, 2016, the Construction and Demoli1ion Waste Management Rules,' 2016 and the Plastics Waste Management Rules. 2016 shall be followed.	We have given E-waste to authorized recycler. Construction and Demolition Waste used for the filling of law lying area and making internal road in the plant.
87	Application of Solar energy shall be incorporated for illuminations of common areas, lighting for gardens and street lighting in addition to the provision for solar water heating system shall also be provided.	Complied Unit has installed solar lights on internal roads and solar water heaters in the canteen.

		 
88	All the commitments / undertaking given to the SEAC during the appraisal process for the purpose of environmental protection and management Shall be strictly adhered to.	Noted Unit shall complied all the point given by SEAC
89	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.	Noted & Complied as and when any additional condition issued by SEAC or the SEIAA for the purpose of environment protection. We are complying to the condition lead by SEAC or the SEIAA in the entire EC. The Compliance status of following EC's are attached as **Annexure ;16** • Letter no. SEIAA/GUJ/EC/4(d) & 1(d)/3076/2015 dated 21st Aug. 2015 • Letter no. J-11011/404/2008-IA-II(I) dated 18th Feb. 2009 • Letter no. J-11011/404/2008-IA-II (I) dated 22nd September, 2008 • Letter no. J-11011/52/2003-IA-II (I) dated July 17, 2003 • Letter no. J-11011/71/2000-IA-II (I) dated January 8, 2002 Letter no. J-11011/38/95-IA.II(I) dated 25th Mar 1996
90	In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down & shall not be restarted until the desired efficiency of control equipment has been achieved.	Complied Chlorine sensors have been provided interlocked with auto controlled valves for shutting up of the operations in case of any abnormality.
91	The project authorities must strictly adhere to the stipulation made by the GPCB, state government & any statutory authority.	Complied We have obtained necessary approvals from GPCB, DISH, CCE, etc. to operate the facilities in the plant. the approvals have been granted with certain conditions by each agency, which are monitored and compliance report submitted periodically. The concerned authorities also conduct inspections of the compliance from time to time.
92	During material transfer there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental Spillages with domestic wastewater or storm water.	Complied Unit has installed collection and recovery pits in each section. All precautions taken to avoid contamination due to spillage. Storm water drain and effluent drain are totally separate. No effluent is transferred through underground lines. Unit has installed collection and recovery pits in each section. These are fitted with auto level controllers. Once a particular level is reached, the contents of the pit are transferred to ETP tanks for treatment. All precautions taken to avoid contamination due to spillage. pH of the storm water is monitored on line and recorded.
93	Pucca flooring/ impervious layer shall be provided in the work areas, chemical storage area & chemical handling areas to minimize soil contamination.	Complied All roads and working areas are either of RCC or asphalt cover to make it impervious in order to prevent soil contamination. All the work areas, storage areas are RCC and waste storage areas are also covered as per standard guidelines so as to prevent soil contamination. In Chemical storage area and chemical handling area, the RCC floor and collection &

		recovery system with bond walls are in place. Any civil activity occurring due to project activities is finally covered with pucca floor only.
94	Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.	Complied If there is any leakages in the plant, it is attended immediately
95	No further expansion or modification in the plant likely to cause environment impact shall be carried out without obtaining prior environment clearance from the concerned authority.	Noted Unit had applied for prior Environmental Clearance for expansion of chlor-alkali plant from 508000 MTPA caustic to 813000 MTPA caustic
96	The above condition will be enforced, inter-alia under the provision of the water (preservation & control of pollution act, 1974, Air (prevent & control of pollution) Act, 1981. the Environment (protection) Act, 1986. Hazardous waste (Management, Handling & Transboundary movement) rules, 2008 & the public liability insurance Act, 1991 along with their amendments & rules.	We have obtained CCA from GPCB under the water (preservation & control of pollution act,1974, Air (prevent & control of pollution) Act,1981. the Environment (protection) Act,1986. Hazardous waste (Management, Handling & Transboundary movement) rules, 2016, & the public liability insurance Act,1991. Along with their amendments & rules and they are valid for the existing operations.
97	All the recommendations, mitigation measures, Environmental protection measure and safeguard proposed in the EIA report of the project prepared by Kadam Environmental Consultants, Vadodara was submitted by project proponent and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered.	Noted & Complied
98	The project proponent shall comply all the conditions mentioned in "The Companies (Corporate Social Responsibility Policy) Rules, 2014" and its amendments from time to time in a letter and spirit.	Noted
99	The project management shall ensure that unit complies with all the environment protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report as well as proposed by project proponent.	Noted
100	The project authorities shall earmark adequate funds to implements the condition stipulated by SEIAA as well as GPCB along with implementation schedule for all the condition stipulated herein.	Complied There is no fund constraint for carrying out the Environment jobs. In case of any emergent requirements not considered in the budget also, our management sanctions the fund for such jobs. We have implemented the remote calibration facilities for all CEMS with an investment of 120 lakh rupees in September 2018.

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

	The funds so provided shall not be diverted for any other purpose.	Environment funds are not diverted for any other purpose
101	The applicant shall inform the public the project has been accorded environmental clearance by the SEIAA & that the copies of the clearance letter are available with the GPCB & may also be seen at the website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspaper that are widely circulated in region, one of which shall be in the Guajarati language & the other in English. A copy each of the same shall be forwarded to the concerned Region office of the ministry.	Complied Public has been informed about this through local newspapers. Copy of the paper cuttings have been submitted to your office, vide letter no. SAC-SHE-E-FL-08, dated:30.01.2019
102	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA any other component authority for the purpose of the environmental protection & management.	Noted & Complied as and when any additional condition issued by SEAC or the SEIAA for the purpose of environment protection. We are complying to the condition lead by SEAC or the SEIAA in the entire EC. The Compliance status of following EC's are attached as **Annexure#16.** • Letter no. SEIAA/GUJ/EC/4(d) & 1(d)/3076/2015 dated 21st Aug. 2015 • Letter no. J-11011/404/2008-IA-II(I) dated 18th Feb. 2009 • Letter no. J-11011/404/2008-IA-II (I) dated 22nd September, 2008 • Letter no. J-11011/52/2003-IA-II (I) dated July 17, 2003 • Letter no. J-11011/71/2000-IA-II (I) dated January 8, 2002 • Letter no. J-11011/38/95-IA.II(I) dated 25th Mar 1996
103	It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms & condition in hard & soft copies to the regulatory authority concerned, on 1st June & 1st December of each calendar year.	Complied Regular Half yearly compliance report is submitted to MoEFCC-RO, CPCB-ZO, SEIAA (Gujarat) and GPCB by mail and hardcopies before 1st June and 1st December every year as per the requirement. Last report for the period Apr-18 to Sept-18 was submitted, vide our letter no. SAC-E-FL-08/18-19/02.
104	Concealing factual data or submission of false/ fabricated data & failure to comply with any of the condition mentioned above may result in withdrawal of this clearance & attract action under the provision of Environment (protection) Act,1986.	Noted. The above information provided are true to the best of our knowledge.
105	The project authorities shall also adhere to the stipulation made by the GPCB.	Noted and Complied We have received CCA NO: 99209 dated 15.03.2019 and adhere to the conditions mentioned in the CCA. Compliance of the same is attached as **Annexure :10**
106	The SEIAA may revoke or suspended the clearance, if implementation of the above condition is not found satisfactory.	Noted Implementation of the conditions is satisfactory and duly verified by the authorities, like-GPCB and MoEFCC from time to time.
107	The company in a time bound manner shall implement these conditions. The	Noted. The project work is under progress & Environment Clearance No.

	SEIAA reserves the right to stipulate additional condition, if the same is found necessary.	SEIAA/GUJ/EC/4(d)/66/2019 dated, 10th Jan'2019 is valid for the seven year.
108	The project authorities shall inform the GPCB, regional office of MoEF & SEIAA about the date of financial closure & final approval of the project by the concerned authorities & the date of start of the project.	Complied Date of start of the project, approval by concerned authorities and date of commissioning of the project informed to GPCB. It is updated on XGN at time of CTE application.
109	This environment clearance Is valid for seven years from the date of issue.	Noted. The project work is under progress & Environment Clearance No. SEIAA/GUJ/EC/4(d)/66/2019 dated, 10th Jan'2019 is valid for the seven year.
110	Any appeal against environment clearance shall lie with the National Green Tribunal, if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted. We are not having any such issue.
111	Submission of any false or misleading information or data which is material to screening or scoping or appraisal or decision on the application makes this environment clearance cancelled.	Noted

Annexure#16 : Compliance of Previous EC:

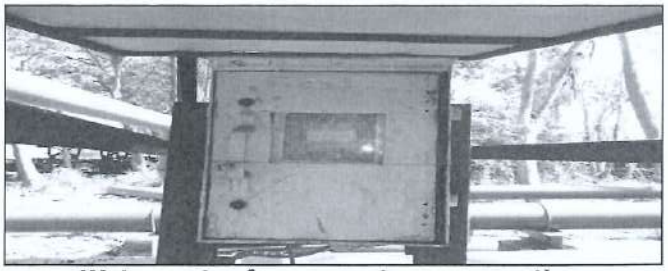
DCM Shriram Limited

(Unit: Shriram Alkali and Chemicals, Jhagadia)

EC Compliance Report of

- **Letter no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015]**
- **Letter no. J-11011/404/2008-IA-II(I) dated 18th Feb. 2009**
- **Letter no. J-11011/404/2008-IA-II (I) dated 22nd September, 2008**
- **Letter no. J-11011/52/2003-IA-II (I) dated July 17, 2003**
- **Letter no. J-11011/71/2000-IA-II (I) dated January 8, 2002**
- **Letter no. J-11011/38/95-IA.II(I) dated 25th Mar 1996**

[Letter no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015]

<table>
<tr><th>S. no.</th><th>CONDITIONS/RECOMMENDATION</th><th>STATUS</th></tr>
<tr><td>1</td><td>Fresh water requirement of 12,233 KL/Day (12,220 KL for Industrial & 13 KL for Domestic purpose) after the proposed expansion shall be met through the GIDC water supply only.</td><td>Complied
Details of water consumption is given below;
<table>
<tr><th rowspan="2">Month</th><th rowspan="2">Water Consumption Meter Reading (KL/M)</th><th rowspan="2">Water Consumed (KL/M)</th><th colspan="3">Avg. Water Consumed (KLD)</th><th rowspan="2">Remark</th></tr>
<tr><th>Industrial</th><th>Domestic</th><th>Total</th></tr>
<tr><td colspan="3">Quantity As per EC Condition</td><td>12220</td><td>13</td><td>12233</td><td></td></tr>
<tr><td>Apr-18</td><td>3757409</td><td>261089</td><td>8703</td><td>10</td><td>8713</td><td rowspan="6">Never crossed the limit of Fresh water consumption of 12,233 KLD from that 12220 KLD for industrial and 13 KLD for domestic</td></tr>
<tr><td>May-18</td><td>4102211</td><td>344802</td><td>11123</td><td>10</td><td>11133</td></tr>
<tr><td>Jun-18</td><td>4430786</td><td>328575</td><td>10953</td><td>10</td><td>10963</td></tr>
<tr><td>Jul-18</td><td>4692646</td><td>261860</td><td>8447</td><td>10</td><td>8457</td></tr>
<tr><td>Aug-18</td><td>4971753</td><td>279107</td><td>9003</td><td>10</td><td>9013</td></tr>
<tr><td>Sep-18</td><td>5222065</td><td>250312</td><td>8344</td><td>10</td><td>8354</td></tr>
</table>

Water meter for raw water consumption

No ground water is tapped for the purpose.</td></tr>
<tr><td></td><td>Metering of water shall be done & its records shall be maintained.</td><td></td></tr>
</table>

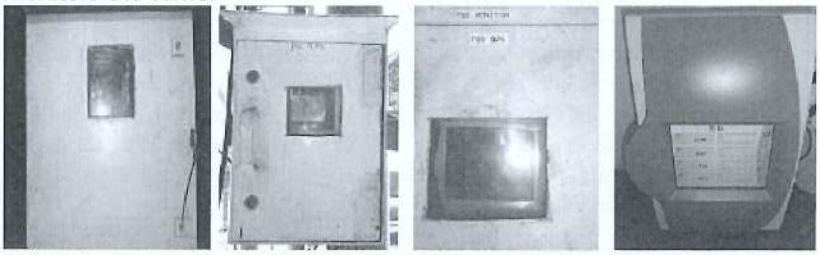
DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

<table>
<tr><td></td><td>No ground water shall be tapped in any case for the project requirements.</td><td></td></tr>
<tr><td>2</td><td>The Industrial waste water generation shall not exceed 861 KL/day after the proposed expansion.</td><td>Complied
Details of effluent discharge for the 6 month is given as below;
<table>
<tr><th>Month</th><th>Effluent Discharge (KL/M)</th><th>Avg. Effluent Discharge (KLD)</th></tr>
<tr><td>Quantity As per EC Condition</td><td>-</td><td>861</td></tr>
<tr><td>Apr-18</td><td>11337</td><td>378</td></tr>
<tr><td>May-18</td><td>13291</td><td>429</td></tr>
<tr><td>Jun-18</td><td>19359</td><td>645</td></tr>
<tr><td>Jul-18</td><td>19233</td><td>620</td></tr>
<tr><td>Aug-18</td><td>17411</td><td>562</td></tr>
<tr><td>Sep-18</td><td>13332</td><td>444</td></tr>
<tr><td>Minimum</td><td>11337</td><td>378</td></tr>
<tr><td>Maximum</td><td>19359</td><td>645</td></tr>
<tr><td>Average</td><td>15661</td><td>513</td></tr>
</table></td></tr>
<tr><td>3</td><td>Waste water generated from the DM plant (240 KL/Day) shall be reused in process plant for the preparation of Sodium hypochlorite.</td><td>Complied
Wastewater generated from DM plant is reused in the process.</td></tr>
<tr><td>4</td><td>Boiler blow down (460 KL/Day) shall be reused completely. 260 KL/Day shall be reused for cooling towers and 200 KL/Day for soot blowers, Ejectors, steam traps etc.</td><td>Complied

The entire blow down FROM THE BOILER is consumed in cooling towers and for soot blowers, ejectors, steam traps etc</td></tr>
<tr><td>5</td><td>After reuse/Recycle of 700 KL/Day waste water, remaining 861 KL/Day of treated effluent conforming to the GPCB norms shall be discharged into the GIDC drain for final disposal by the NCTL into the deep sea.</td><td>Complied
Quantity of Reuse/recycle and treated effluent discharge is tabulated below:
<table>
<tr><th>Month</th><th>Avg. Reuse/Recycle* Quantity (KLD)</th><th>Avg. Effluent Discharge (KLD)</th></tr>
<tr><td>Quantity As per EC Condition</td><td>700</td><td>861</td></tr>
<tr><td>Apr-18</td><td>521</td><td>378</td></tr>
<tr><td>May-18</td><td>324</td><td>429</td></tr>
<tr><td>Jun-18</td><td>343</td><td>645</td></tr>
<tr><td>Jul-18</td><td>318</td><td>620</td></tr>
<tr><td>Aug-18</td><td>305</td><td>562</td></tr>
<tr><td>Sep-18</td><td>291</td><td>444</td></tr>
</table>
* Presently, the effluent is being passed through RO unit and permeate is recovered. RO reject & cooling tower blow down is treated & final treated effluent, conforming to the GPCB norms is discharged into the GIDC drain for final disposal by the NCTL into the deep sea.
All parameters are well within the prescribed limit of GPCB.</td></tr>
</table>

DCM Shriram Limited • Shriram Alkali & Chemicals • Unit: Jhagadia, Dist. Bharuch.

<table>
<tr><td>6</td><td>The ETP shall be operated regularly and efficiently so as to achieve the GPCB norms at the final outlet.</td><td>Complied
The ETP is being operated regularly and efficiently. GPCB norms at the final outlet are being achieved. Results of the treated effluent is already provided in S. No. 5.

Parameters like pH, TSS,Temperature & TOC are monitored by on line meter and real time data is transferred to CPCB & GPCB server. Metering facility at the inlet and outlet of ETP is available and NCTL continuously monitors the same.
 
Flow meter pH meter TSS meter TOC meter</td></tr>
<tr><td>7</td><td>The domestic waste water generation shall be 13 KL/Day and it shall be disposed off through septic tank-soak pit.</td><td>Complied
The domestic waste water generation details is tabulated below:
<table><tr><th>Month</th><th>Domestic Wastewater generation (KLD)</th></tr><tr><td>Quantity As per EC Condition</td><td>13</td></tr><tr><td>Apr-18</td><td>10</td></tr><tr><td>May-18</td><td>10</td></tr><tr><td>Jun-18</td><td>10</td></tr><tr><td>Jul-18</td><td>10</td></tr><tr><td>Aug-18</td><td>10</td></tr><tr><td>Sep-18</td><td>10</td></tr></table>
The domestic waste water 13 KL/Day is disposed through Soak pit. Localized STPs have also been installed at the soak pit outlet for further treatment and it is use for gardening.</td></tr>
<tr><td>8</td><td>The unit shall provide metering facility at the inlet and outlet of the ETPs and maintain the records of the same.
The unit shall also provide on line pH meter and TOC meter for online monitoring of the treated effluent.</td><td>Complied
Metering facility at the inlet and outlet of ETP is available and NCTL continuously monitors the same.

Online flow meter, pH meter, TSS meter & TOC meter have been provided in Effluent discharge line and the data is monitored through the DCS and transmitted to CPCB & GPCB server, as per the requirement.</td></tr>
<tr><td>9</td><td>A proper logbook of ETP operation and also showing the quality of effluent generated, utilized for plantation / gardening etc. shall be maintained and furnished to the GPCB from time to time.</td><td>Complied
Logbook of the ETP is maintained.
The reports are also given in soft copy and hard copy to GPCB monthly through XGN.</td></tr>
</table>

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia Dist. Bharuch •

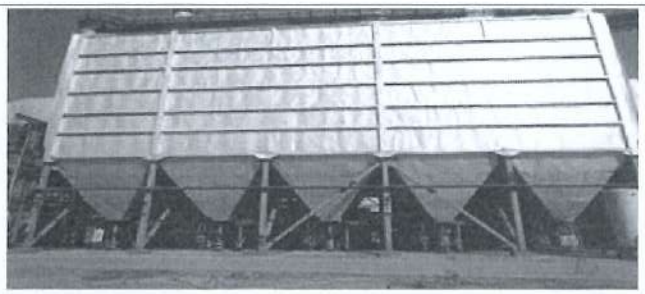
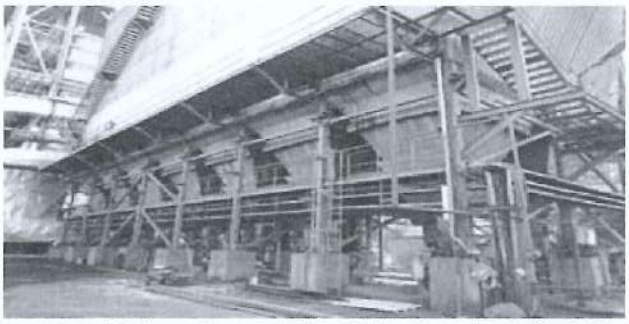
<table>
<tr><td>10</td><td>Regular performance evaluations of the ETP shall be undertaken every year to check its adequacy through credible institute like L.D. college of Engineering, NPC or such other institute of similar repute and its records shall be maintained.</td><td>Complied
Yearly performance evolutions of ETP is done by GPCB authorized grade-I auditing institute as per the directions from GPCB.
In 2017-18 the audit is carried out by N.G.PATEL POLYTECHNIC, BARDOLI.
For 2018-19, the audit carried out by MANMADE TEXTILE FIBER RESEARCH CENTER, SURAT.
After the audit is over, the institute will upload report in GPCB website.</td></tr>
<tr><td>11</td><td>The unit shall join and participate financially and Technically for any common environment facility / infrastructure as and when the same is taken up either by the GIDC OR GPCB or any such authority created for this purpose by the Govt./GIDC.</td><td>Complied
We are one of the active members of Jhagadia Industrial association (JIA). We are also a member of NCTL for disposal of treated effluent through Jhagadia pipeline project.
We are supporting them, whenever they seek our help. For the constructions of Jhagadia pipe line project, we had deputed one mechanical engineer for above six month for supporting.</td></tr>
<tr><td></td><td>AIR</td><td></td></tr>
<tr><td>12</td><td>Additional Blended coal (Indigenous/imported/lignite/biomass) to the tune of 54.338MT/hr (476000MT/Annum) shall be used for the proposed 300 TPH steam boiler of coal based power plant.</td><td>Complied
Additional blended coal 39 MT/hr. is used for 300 TPH boiler.</td></tr>
<tr><td>13</td><td>Indigenous/imported coal, Lignite & Biomass shall be blended in such a way that the blended coal to be used shall have sulfur content and Ash content not exceeding 1% & 20% respectively.</td><td>Complied
Indigenous and Imported coal ratio for P60 power plant is 35% and 65% respectively.
The Condition is being followed. Sulfur content and Ash content in the coal used by us are not exceeding 1% & 20% limits, respectively. Details of analysis are given as below;
<table>
<tr><th>Month</th><th>Ash Content In %</th><th>Sulphur Content In %</th></tr>
<tr><td>Apr-18</td><td>6.73</td><td>0.72</td></tr>
<tr><td>May-18</td><td>11.17</td><td>0.72</td></tr>
<tr><td>Jun-18</td><td>10.43</td><td>0.92</td></tr>
<tr><td>Jul-18</td><td>9.93</td><td>0.89</td></tr>
<tr><td>Aug-18</td><td>11.30</td><td>0.90</td></tr>
<tr><td>Sep-18</td><td>10.24</td><td>0.91</td></tr>
<tr><td>Average</td><td>9.97</td><td>0.84</td></tr>
</table></td></tr>
<tr><td>14</td><td>Additional Hydrogen gas to the tune of 34,000 NM^3/Day shall be used as fuel for the proposed molten salt heater.</td><td>Complied
We are using Hydrogen gas to the tune of 34000NM3 /day as fuel in the molten salt heater. By now we have permission for use this green in 2nd flaker plant and in boilers also.
The month-wise Hydrogen consumption are given as under:
<table>
<tr><th colspan="4">Hydrogen use in plant</th></tr>
<tr><td>S. No.</td><td>Month</td><td>H_2 in Flaker plant</td><td>Unit</td></tr>
<tr><td>1</td><td>Apr-18</td><td>2392959</td><td>m^3/Month</td></tr>
<tr><td>2</td><td>May-18</td><td>2830740</td><td>m^3/Month</td></tr>
<tr><td>3</td><td>Jun-18</td><td>2648550</td><td>m^3/Month</td></tr>
<tr><td>4</td><td>Jul-18</td><td>1989808</td><td>m^3/Month</td></tr>
<tr><td>5</td><td>Aug-18</td><td>2404529</td><td>m^3/Month</td></tr>
<tr><td>6</td><td>Sep-18</td><td>2125059</td><td>m^3/Month</td></tr>
<tr><td colspan="2">Average</td><td>78643</td><td>m^3/ day</td></tr>
</table></td></tr>
<tr><td>15</td><td>Additional HSD to the tune of 100 MT/annum shall be used for</td><td>Complied
HSD is used for startup of boilers. Consumption of HSD is below 100</td></tr>
</table>

DCM Shriram Limited Alkali & Chemicals Unit: Jhagadia, Dist. Bharuch.

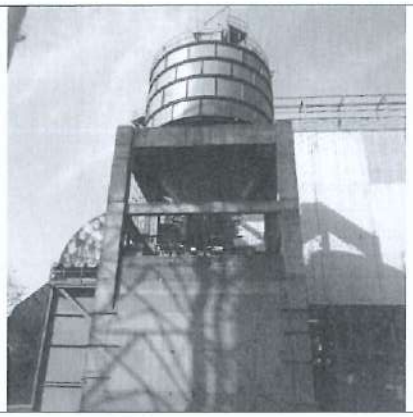
<table>
<tr><td></td><td>startup & support of Boilers for proposed activities.</td><td>MT/Annum. The HSD consumption for last 3 years are:
<table>
<tr><th>Year</th><th>2015-16</th><th>2016-17</th><th>2017-18</th><th>Apr.-Sept,18</th></tr>
<tr><td>Consumption(KL)</td><td>29.9</td><td>68.86</td><td>69.57</td><td>89.82</td></tr>
</table></td></tr>
<tr><td>16</td><td>Caustic scrubber shall be provided with chlorine absorption unit - Hypo plant & water / Caustic scrubber shall be provided with HCl plants as air pollution control equipment for control of Cl2 & HCl.</td><td>Complied
SAC is having caustic scrubber for waste chlorine neutralization and HCl fumes absorption in Hypo and HCl plants, respectively. Photographs are as below;
 
HCl Scrubber
 
Hypo Scrubber</td></tr>
<tr><td>17</td><td>Adequate stack height as per prevailing norms shall be provided for the flue gas & process emissions.</td><td>Complied
Stack height is calculated as per the prevailing norms of CPCB and they are adequate. The details of the stacks and their height adequacy is given below:
<table>
<tr><th>Stack attached to</th><th>Actual Stack height in m</th><th>Stack height as per CPCB</th><th>Adequacy</th></tr>
<tr><td>PF Boiler of CPP*</td><td>85</td><td>77</td><td>Adequate stack height and ESP & Dust collector attached</td></tr>
<tr><td>Auxiliary Boiler</td><td>58</td><td>49</td><td>Adequate stack height</td></tr>
<tr><td>CFBC Boiler of CPP</td><td>115</td><td>114</td><td>Adequate stack height and ESP & Dust collector attached</td></tr>
<tr><td>Molten Salt Heater-I</td><td>40</td><td>-</td><td rowspan="2">Adequate stack height provided as per CTO</td></tr>
<tr><td>Molten Salt Heater-II</td><td>40</td><td>-</td></tr>
<tr><td>DG Set- I (6 MW)</td><td>58</td><td>49</td><td rowspan="5">Adequate stack height</td></tr>
<tr><td>DG Set- II (6 MW)</td><td>58</td><td>49</td></tr>
<tr><td>DG Set- III (3 MW)</td><td>58</td><td>49</td></tr>
<tr><td>DG Set- IV (3 MW)</td><td>58</td><td>49</td></tr>
<tr><td>DG Set- V (6 MW)</td><td>58</td><td>49</td></tr>
</table>
Adequacy of Process stack:
<table>
<tr><th>Stack attached to</th><th>Stack height in m</th><th>Pollutant</th><th>APCM Attached</th><th>Remark</th></tr>
<tr><td>HCl-1</td><td>30</td><td>HCl & Chlorine</td><td>Water Scrubber, Alkali Scrubber</td><td rowspan="2">In HCl vents, water</td></tr>
<tr><td>HCl-2</td><td>30</td><td>HCl &</td><td>Water Scrubber,</td></tr>
</table></td></tr>
</table>

				Chlorine	Alkali Scrubber	scrubber followed by Alkali scrubber have been installed
		HCl-3	30	HCl & Chlorine	Water Scrubber, Alkali Scrubber	
		HCl-4	30	HCl & Chlorine	Water Scrubber, Alkali Scrubber	
		Hypo-1	30	Chlorine	Alkali Scrubber	
		Hypo-2	30	Chlorine	Alkali Scrubber	
18	On-line monitoring system shall be installed on the flue gas & Process stacks to monitor the pollutant concentrations and arrangement shall also be made for reflecting the online monitoring results on the company's server, which can be accessed by the GPCB on real time basis.	Complied Online monitoring system for the parameter PM, SOx and NOx have been installed in flue gas stacks of boilers, Online monitoring of HCl and chlorine is done in HCl stack, Online chlorine monitoring is done in Hypo stack. Real time data is transfer to CPCB and GPCB server made on continuous basis.				
19	The air pollution control system shall be operated efficiently & effectively to achieve the norms prescribed by the GPCB at vent/stack outlets.	Complied				
20	High efficiency electro static precipitators (ESP) with efficiency not less than 99.9% shall be installed for control of flue gas emission from the power plant. The ESP shall be operated efficiently to ensure that particulate matter emission does not exceed the GPCB norms, the control system shall be designed & integrated in plant DCS in such a way that if emission from ESP exceed the specified standard, utilization of boiler capacity shall reduce so that flue gas emission from the stack meets with the specified norms of boiler shall shut down totally.	Complied The ESPs installed are operating with adequate efficiency (99.9 %) and the emission does not exceed the GPCB norms. Photograph of ESP and Dust collector system is given in point 21. The values are displayed in power plant DCS and real-time data being transferred to CPCB server also. Screenshots of the display are: The emission from ESP does not exceed the specified standard.				
21	There shall be one extra field in the ESP to ensure that even though one field goes out of order, the prescribed standard of PM is met with, in case of failure of two or more fields of the ESP, the unit shall immediately shut down the power plant.	Complied The ESP of CFBC boiler is having five fields and P.F boiler has seven fields. Meanwhile four fields are in line in each. Photographs is as below;				

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Jhagadia, Dist. Bharuch.

		  In case of failure of any of the fields, the other idle field is taken in operation to achieve the desired results. In case two or more fields of the ESP, the unit shall immediately shut down the power plant.
22	Third party monitoring of the functioning of the ESP along with its efficiency shall be carried out once in a year through a reputed institute / organization.	Complied We have carried out 3rd party monitoring to check performance of ESP through Bharuch Enviro Infrastructure Ltd. (BEIL), approved agency regularly.
23	Lime stone injection technology shall be adopted to control SO2 & its shall be ensured that SO2 level in the ambient air do not exceed the prescribed standards.	Complied Lime stone injection system has been incorporated in the CFBC boiler to control SO_2. Results are well within standards. Results are given in point no. 19
24	The company shall prepare schedule & carryout regular preventive maintenance of mechanical & electrical parts of ESPs and assign responsibility of preventive maintenance to the senior officer of the company.	Complied Preventive maintenance schedule exists and the maintenance manager is responsible for the activity. Schedule for the yearly ESP maintenance. SOP of Cleaning/ maintenance of ESP (SOP No. SAC/P48/WI-32/V.1.0/1.11.12) is done by the concern person as mentioned in the SOP.
25	Adequate storage facility for the Fly ash in terms of closed silos shall be provided at site. No ash pond shall be constructed.	Complied Closed silos (2Nos.) of 500 MT capacities exist for storage of the fly ash at site. Unit does not have any ash pond for the purpose.

DCM Shriram Alkali & Chemicals Limited, Unit Shriram, Jhagadia, Dist. Bharuch.

<table>
<tr><td></td><td></td><td>  </td></tr>
<tr><td>26</td><td>Handling of the fly ash shall be through a closed pneumatic system.</td><td>Complied
We use closed pneumatic system for handling of fly ash. Photographs provided in point no. 25.</td></tr>
<tr><td>27</td><td>Ash shall be handled only in dry state.</td><td>Noted & Complied
We have only dry ash system and do not have any wet ashing facility at site.</td></tr>
<tr><td>28</td><td>The unit shall strictly comply with the Fly Ash Notification under the EPA and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.</td><td>Complied
100% utilization of fly ash being generated is ensured. Generated fly ash is
<table>
<tr><th>S. No.</th><th>Month</th><th>Fly Ash Dispatch (MT)</th></tr>
<tr><td>1</td><td>April-18</td><td>3298</td></tr>
<tr><td>2</td><td>May-18</td><td>6245.08</td></tr>
<tr><td>3</td><td>June-18</td><td>5508.8</td></tr>
<tr><td>4</td><td>July-18</td><td>4646.7</td></tr>
<tr><td>5</td><td>Aug-18</td><td>4512.9</td></tr>
<tr><td>6</td><td>Sept-18</td><td>3385.97</td></tr>
</table>
sent to cement, brick and block manufacturing industry. The record of fly ash disposal for Apr-Sept'18 is as under:</td></tr>
<tr><td>29</td><td>The fugitive emission in the work zone environment shall be monitored.

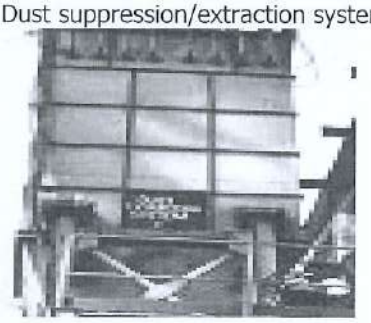
The emission shall confirm to the standards prescribed by the concerned authorities from time to time (e.g. DISH) following indicative guideline shall also be followed to reduce the fugitive emission.

→All handling & transport of coal /Lignite /Bio-mass shall be exercised through covered coal</td><td>Complied
Monitoring of fugitive emission is carried out at work zone environment in the plant at conference room of admin building, power plant control room, caustic plant control room and admin building. Parameters like CO and CO_2 are measured in the work place.

Fugitive emission monitoring at work place is carried out once in a month. Online meters of Cl_2 is located at following locations. Results for the month of April-September 2018 is as following;
<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Parameter</th><th colspan="3">Range in ppm</th><th rowspan="2">TWA limit in ppm</th></tr>
<tr><th>Max</th><th>Min</th><th>Average</th></tr>
<tr><td>Cell house</td><td>Cl_2</td><td>0.13</td><td>0.11</td><td>0.12</td><td>0.5</td></tr>
<tr><td>Old Cl_2 bottling shed</td><td>Cl_2</td><td>0.18</td><td>0.13</td><td>0.15</td><td>0.5</td></tr>
<tr><td>New Cl_2 bottling shed</td><td>Cl_2</td><td>0.13</td><td>0.10</td><td>0.12</td><td>0.5</td></tr>
<tr><td>Cl_2 Storage area</td><td>Cl_2</td><td>0.17</td><td>0.10</td><td>0.13</td><td>0.5</td></tr>
</table>
Under the Gujarat Factory Rule 12-B form no. 37 is maintained. Register for the same is attached as Annexure 9.

Handling & transportation of coal is carried out through coal conveyers only. Photograph for coverer system is given as following;</td></tr>
</table>

DCM Shriram Limited • Shriram Alkali & Chemicals • Unit: Jhagadia, Dist. Bharuch •

conveyers only.	
→Enclosure shall be provided at coal /Lignite /Bio-mass loading & unloading operation.	Enclosure is provided at coal loading and unloading operation. Photographs are provided as above.
→Water shall be sprinkled on coal /Lignite /Bio-mass stock piles periodically to retain some moisture in top layer & also while compacting to reduce the fugitive emission.	Water is sprinkled to retain some moisture in top layer and reduce the fugitive emission.
→All transfer point shall be fully enclosed.	All transfer points are fully enclosed. Transfer by truck is also done in enclosed condition. Photograph of the same is given as below and photo of the conveyer system is shown as above. 
→Adequate dust suppression/ Extraction system at crusher house as well as for the Coal /Lignite /Bio-mass stock yard & other vulnerable areas shall be provided to abate dust nuisance.	Dust suppression/extraction system exists at coal crusher house. 
→Accumulated coal dust /Fly ash on the ground & other surface shall be removed /Swept regularly & water the area after sweeping.	Methodology of cleaning of coal dust/ Fly ash is in place. (SOP No. SAC/P48/WI-32/V.1.0/1.11.12)
→Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.	All internal roads are either concreted or asphalted
→Air borne dust shall be controlled with water sprinklers at suitable location in the plant.	Water sprinkler being done to suppress airborne dust

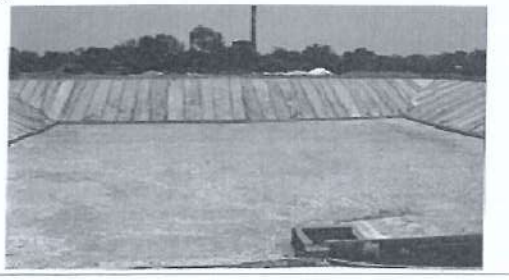
DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia Dist. Bharuch.

<table>
<tr><td></td><td>→Coal /Lignite /Bio-mass shall be transported through covered trucks only whereas fly ash shall be transported through closed truck only.

→A green belt shall be developed all-round the plant boundary & also along the road to mitigate fugitive transport dust emission.</td><td>Point is discussed above.

Greenbelt has already been developed at site and in GIDC land adjacent to the boundary to mitigate the effect of fugitive emission all around the plant.
   </td></tr>
<tr><td>30</td><td>All the vessels used in the manufacturing process shall be closed to reduce the fugitive emission.</td><td>Complied
All the vessels used in manufacturing process are closed.</td></tr>
<tr><td>31</td><td>Third party performance evaluation of the air pollution control system including ESP shall be carried out at least once in a year to check its performance & efficiency through a reputed institute / organization like NPC, L.D.College of Engineering-Ahmadabad or such other institute of similar repute & its record shall be maintained.</td><td>Complied
Third party performance of Particulate matter emission carried out by N.G.PATEL POLYTECHNIC, BARDOLI in 2017-18 and MANMADE TEXTILE FIBER RESEARCH CENTER, SURAT in 2018-19.
Performance evaluation of ESP is carried out by MoEF and NABL approved third party (M/s Bharuch Enviro Infrastructure ltd.).</td></tr>
<tr><td>32</td><td>Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOX, Cl2,& HCl shall be carried out in the impact zone & its record shall be maintained.</td><td>Complied
AAQ monitoring is carried out once in a month. Monitoring and testing is carried out by GPCB and MoEF approved laboratory M/s. San Envirotech Pvt. Ltd., Ahmedabad, AAQM reports are attached as Annexure 10. Analysis of 6 months (April to September-2018) report summary of AAQM are given as below;
<table>
<tr><th colspan="2" rowspan="2">Location of AAQM</th><th colspan="6">Results (permissible limit) & unit in µg/m^3</th></tr>
<tr><th>PM_{10} (100)</th><th>$PM_{2.5}$ (60)</th><th>SOx (80)</th><th>NOx (80)</th><th>HCl (200)</th><th>Cl_2 (100)</th></tr>
<tr><td rowspan="3">Near Salt Yard</td><td>Max.</td><td>59</td><td>43</td><td>28.5</td><td>31.9</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>49</td><td>33</td><td>23.3</td><td>27.5</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>54</td><td>37.8</td><td>26.4</td><td>29.4</td><td>BDL</td><td>BDL</td></tr>
<tr><td rowspan="3">Near Main Gate</td><td>Max.</td><td>61</td><td>39</td><td>30.8</td><td>34.6</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>52</td><td>30</td><td>20.1</td><td>24.9</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>57</td><td>35</td><td>27.1</td><td>30.4</td><td>BDL</td><td>BDL</td></tr>
<tr><td rowspan="3">Near TSDF</td><td>Max.</td><td>54</td><td>35</td><td>33.5</td><td>35.6</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Min.</td><td>42</td><td>30</td><td>18.8</td><td>21.5</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Average</td><td>50</td><td>33</td><td>25.3</td><td>27.6</td><td>BDL</td><td>BDL</td></tr>
</table></td></tr>
</table>

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

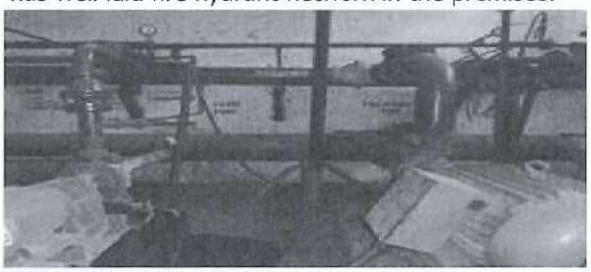
	Ambient air quality levels shall not exceed the prescribed limits. Necessary additional control measures shall be provided immediately. The location of the monitoring station & frequency of monitoring shall be decided in consultation with GPCB.	Ambient air quality results are well within standard prescribed limits. Ambient air quality results are well within standard prescribed limits so additional control are not required. Location of monitoring stations has been conveyed to GPCB in the environment audit report duly prepared by GPCB authorised environment auditors and the Annual Environment statement. Frequency of monitoring has been conveyed to DCM-SAC through Consolidated Consent & Authorisation (CCA) granted by GPCB Unit has facility (High volume sampler) of ambient air sampling and analysis, Monitoring station is located as per guideline. 
	SOLID / HAZARDOUS WASTE	
33	The company must strictly comply with the rules & regulation with regards to handling & disposal of hazardous waste in accordance with the hazardous waste (Management, handling & Transboundary movement) rules 2008, as may be amended from time to time. Authorization from the GPCB must be obtained for collection / treatment / storage disposal of hazardous wastes.	Complied We are complying to the Hazardous waste imported, handling and storage rules'2016, which supersedes HW Rules'2008 SAC has taken CCA from GPCB for collection/ treatment/ storage disposal of hazardous waste.
34	ETP sludge & Brine sludge shall be stored in separate designated hazardous waste storage facility with pucca bottom & leachate collection facility, before its disposal.	Complied ETP sludge and Brine sludge is disposed in the Secured Landfill Facility (SLF) within the factory premises. The design of the facility is as per the recommendations of CPCB with pucca impervious bottom & leachate collection facility. 
35	Brine sludge shall be disposed off to their own TSDF site within premises.	Complied Brine sludge is disposed in the TSDF within the factory premises.

DCM Shriram Ltd. Unit: Shriram Alkali & Chemicals Dist. Bharuch.

<table>
<tr><td>36</td><td>ETP sludge shall be disposed off to their own TSDF site or common TSDF site based on its characteristics.</td><td>Complied
ETP sludge is disposed at our own TSDF (SLF).</td></tr>
<tr><td>37</td><td>Discarded containers / barrels / bags / liners shall be either reused or sold only to authorized recyclers after decontamination.</td><td>Complied
Discarded barrels are disposed to GPCB approved recycler M/s. BEIL.
Bags are used for making tarpaulin through in-house processing after decontamination. The washings are sent to ETP and after pH correction, discharged with treated effluent. The tarpaulin is used for covering the salt, flakes bags, chemical bags, etc.</td></tr>
<tr><td>38</td><td>Used oil shall be sold only to the registered recyclers /refiners.</td><td>Complied
Used oil is sold to authorized recyclers M/s. R.K. Steel, Bharuch having valid consent- AWH 44344 to accept used oil.</td></tr>
<tr><td>39</td><td>For storage of Fly ash closed silos of adequate capacity shall be provided. No ash pond shall be constructed in the project.</td><td>Complied
Unit has 2 Nos of 500 MT each closed silos for fly ash, no ash pond exists for storage of fly ash.</td></tr>
<tr><td>40</td><td>The fly ash shall be supplied to the manufacturers of fly ash based products such as cement, concrete blocks, bricks, panels, etc.
The unit shall strictly comply with the fly ash notification under EPA & it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.</td><td>Complied
The fly ash is supplied to the manufacturers of cement -M/s Ambuja cement, M/s JK Lakshmi cement and M/s MAA KHODIYAR MATEL BRICKS manufacturing cement concrete blocks, bricks, panels, etc. The unit is complying with the fly ash notification under EPA & it is ensured to utilize 100% fly ash.</td></tr>
<tr><td>41</td><td>All possible effort shall be made for Co-processing of the Hazardous waste prior disposal into TSDF/CHWIF.</td><td>Complied
Unit is using the chemical bags for making tarpaulin after decontamination. Unit is selling spent oil to registered recyclers. The ETP sludge is disposed in captive SLF.</td></tr>
<tr><td>42</td><td>Provision of the manufacture, storage & import of hazardous chemicals rules, 1989 & Factory act 1948 shall be strictly complied with</td><td>Complied
Unit is complying with the provisions of Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 and Factory Act'1948. The Onsite emergency plan is in place and periodic mock drills are carried out as per the requirement.</td></tr>
<tr><td>43</td><td>Recommendations made in the risk assessment study report submitted by the project proponent shall be vigorously followed</td><td>Complied</td></tr>
<tr><td>44</td><td>Unit Shall strictly comply with the provision made in manufacture storage and import of hazardous chemicals rules 1989, as amended in 2000 for handling of hazardous chemicals, All necessary approvals from the concern govt. authorities shall be obtained before expansion of the project.</td><td>Complied
We have obtained the approval from the Directorate of Factory for Factory operation and Chief controller of explosive for storage of Chlorine, Chlorine tonner and Hydrogen.
The latest approvals from CCE are as under:
<table>
<tr><th>Name of the Chemical</th><th>Type of Storage</th><th>Quantity</th><th>Nos. of Storage</th><th>License No.</th><th>Valid up to</th></tr>
<tr><td>Chlorine</td><td>Cylinders</td><td></td><td>2016 Nos.</td><td>G/HO/GJ/06/191 (G1346)</td><td>30.09.2020</td></tr>
<tr><td>Chlorine</td><td>Storage tanks</td><td>492.5 MT</td><td>05 tanks</td><td>S/HO/GJ/03/320 (S 1605)</td><td>30.09.2020</td></tr>
<tr><td>Hydrogen</td><td>Cylinders</td><td></td><td>744 Nos.</td><td>G/HO/GJ/05/350 &</td><td>30.09.2019</td></tr>
</table></td></tr>
</table>

DCM Shriram Limited • Unit: Shriram Alkali Chemicals • Jhagadia, Dist. Bharuch.

						G/HO/GJ/06/335 (G1545)	
		Petroleum-Class-B	Tanks	665 KL		P/HQ/GJ/15/1740 (P12101)	31.12.2020
		Class-C	Tanks	1950 KL			
45	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic/hazardous chemicals especially chlorine, hydrogen etc.	Complied Necessary engineering control have been provided, PPE's are used by the person handling the chemical and Unit has On site Emergency plan with defined roles and responsibility to handle incidents & accidents. The last date of revision of plan is July-18, the periodic mock drills are carried out. • Hydrogen & Chlorine sensors with alarm installed at plant area and monitoring done through DCS • 35 Chlorine sensors have been installed for work place chlorine monitoring at strategic places in factory with display and alarm indication at DCS. • All Chlorine system connected to vacuum & diverted to the neutralization system. Waste Chlorine is absorbed in Dilute sodium hypochlorite solution and Sodium HYPO is produced • Effective water spraying done on chlorine storage tank. • Non sparking tools used for hydrogen compressor, flammable material handling area • Unit also have well designed Fire hydrant system with stand-by pump facility and reservoir. • Unit have two fire tender with well trained fire fighting staff to control fire. • Unit also installed different types of fire extinguishers at strategic locations as per standards.					
46	Stringent safety norms shall be adopted for storage handling and safe conveyance of chlorine to the nearby costumers through the pipeline	Complied For storage of Chlorine, unit has obtained necessary license from PESO and all conditions laid down in the license are implemented. Industry alos follows the best industrial practices for storage of Chlorine. Safety norms adopted during design stage for safe conveyance of chlorine to the nearby costumers through the pipeline. The same is being monitored at periodic intervals. Unit has provided chlorine sensors with on/off valves for conveyance of chlorine through pipelines. Chlorine sensors are as below;  					

<table>
<tr><td>47</td><td>Chlorine sensors and hydrogen sensors with alarm system shall be provided at various locations within plant premises.</td><td>Complied
35 nos of Chlorine sensors and 22 nos of Hydrogen sensors have been provided at strategic locations within the plant premises. The alarm is provided in DCS for the values above TLV of each gas</td></tr>
<tr><td>48</td><td>All the materials especially chlorine, hydrogen etc. shall be stored in optimum quantity and all necessary permissions in the regard shall be obtained before commencing the expansion activities</td><td>Complied
Unit has obtained permission for storage of Chlorine and Hydrogen from CCE. Unit maintains a dummy (empty) tank for chlorine transfer in case of emergency. The stock quantity is maintained much below the licensed capacity.</td></tr>
<tr><td>49</td><td>A well designed fire hydrant system shall be installed as per the prevailing standards.</td><td>Complied
SAC already has well laid fire hydrant network in the premises.
 
Fire hydrant layout diagram is given as Annexure 16.</td></tr>
<tr><td>50</td><td>Storage and use of Hazardous chemicals shall be minimized to the extent possible and all necessary precautions shall be taken to mitigate the risk generated out of it.

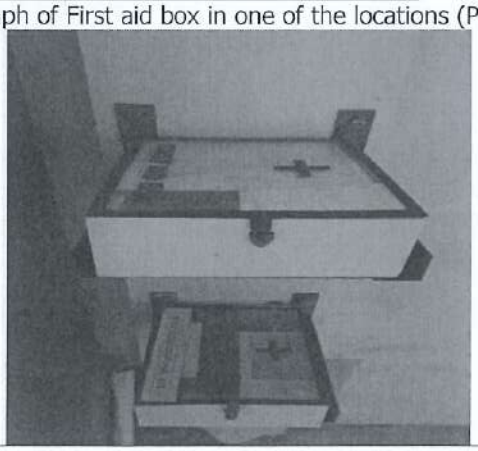
Storage of hazardous chemicals shall be in multiple small capacity tanks/ containers instead of one single large capacity tank for safety purpose.</td><td>Complied
Unit is maintaining minimum stock levels of hazardous chemicals within the campus.

Unit has considered small storage tanks for storage of hazardous chemicals. the details of storage facilities are as under:
<table>
<tr><th rowspan="2">S. No.</th><th rowspan="2">Chemicals / Items</th><th rowspan="2">State</th><th rowspan="2">Hazard Involved</th><th rowspan="2">Means of Storage</th><th>No. of Vessels/Bags/ Tons</th></tr>
<tr><th>Existing</th></tr>
<tr><td>1</td><td>Chemicals (including Barium Carbonate, Sodium Carbonate, Sodium Sulphite)</td><td>Solid</td><td>Corrosive</td><td>MT stored in chemical storage shed</td><td>400 MT</td></tr>
<tr><td>2</td><td>H_2SO_4 (98%)</td><td>Liquid</td><td>Corrosive</td><td>Tank</td><td>75.4 M3 X 1 tank</td></tr>
<tr><td>3</td><td>Blended Coal</td><td>Solid</td><td>Flammable</td><td>MT in Coal Yard</td><td>7,31,000 MT</td></tr>
<tr><td>4</td><td>Furnace Oil</td><td>Liquid</td><td>Flammable</td><td>Tank</td><td>1110 MT</td></tr>
<tr><td>1</td><td>Caustic Soda Lye</td><td>Liquid</td><td>Corrosive</td><td>Tanks</td><td>1100 M3 X 3 tank
1923 M3 X 2 tank</td></tr>
<tr><td>2</td><td>Caustic Soda Flakes</td><td>Solid Crystal</td><td>Corrosive</td><td>Stored in chemical storage shed</td><td>1200 Tons</td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Chlorine</td><td>Liquid</td><td>Toxic, Corrosive</td><td>Tanks</td><td>100 MT X 4 tank
92.5 MT X 1 tank</td></tr>
<tr><td>Liquid</td><td>Toxic, Corrosive</td><td>Tonners</td><td>2016 nos</td></tr>
</table></td></tr>
</table>

DCM Shriram Limited • Shriram Alkali Chemicals • Jhagadia, Dist. Bharuch.

		4	Hydrochloric Acid	Liquid	Corrosive	Tanks	127 M3 X 4 265 M3 X 2
		5	Sodium hypochlorite	Liquid	Corrosive	Tanks	132.7 M3 X 2 tank 253.7 M3X 1 tank
		6	Dilute Sulphuric Acid	Liquid	Corrosive	Tank	75.4 M3X 1 tank
		7	Hydrogen gas	Gas	Flammable	Gas Holder	1500 M3
51	During material transfer, Spillage shall be avoided and garland drain be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water	Complied Unit has installed collection and recovery pits in each section. All precautions taken to avoid contamination due to spillage. Storm water drain and effluent drain are totally separate. No effluent is transferred through underground lines. Unit has installed collection and recovery pits in each section. These are fitted with auto level controllers. Once a particular level is reached, the contents of the pit are transferred to ETP tanks for treatment. All precautions taken to avoid contamination due to spillage. pH of the storm water is monitored on line and recorded.					
52	All the storage tank shall be fitted with appropriate controls to avoid any leakages, bund / dyke walls shall be provided for storage tank for hazardous chemicals. Close handling system for chemicals shall be provided.	Complied Dyke walls with collection pits and recovery system have been provided around the storage tanks of hazardous chemicals  Our entire operation Process is closed circuit operation and there are no open drain conveying system for chemicals being handled.					
53	Tie up shall be done with nearby health care unit for seeking immediate medical attention in the case of emergency, regular medical checkup of the workers and keeping its records etc.	Complied Unit maintains an Occupational Health Centre within the complex for immediate first aid. The OHC is manned by a regular qualified doctor and qualified male nurses. Besides that unit has tied up with the nearest health care unit at Bharuch, Ankleshwar, Jhagadia and Vadodara for immediate medical support. Medical check- up of around 530 employees has been carried out in last six months. Tests like Physical examination, Spirometry - Lung function test, Pathological Blood tests, Audiometry , X Ray chest, Test for Hepatitis B, was carried out. 06 nos. of tests was done for employee. The six monthly medical checkup of the employees are conducted at our OHC, as per the requirement.					
54	Personal protective equipment shall be provided to workers and its usage shall be ensured and supervised	Complied All necessary PPEs have been provided to workers and they are continuously encouraged for their use. PPE boxes are kept in different sections of the plant with all necessary PPEs.					

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Dist. Bharuch

<table>
<tr><td></td><td></td><td>  </td></tr>
<tr><td>55</td><td>First aid box and required antidotes for the chemicals Used in the unit shall be made readily available in adequate quantity.</td><td>Complied
• The List of Chemicals used, their corresponding antidotes and quantities of antidotes are available at various locations in the plant. The Unit is inspecting the contents of the First Aid box by OHC staff on monthly basis. The records of the same are available with OHC.
• Provision of First aid boxes are kept in strategic locations in the plant.
Antidotes for the chemicals are kept at OHC. Locations of the First Aid Box is given as below;
<table><tr><th>S. No.</th><th>First Aid box location</th></tr><tr><td>1</td><td>Occupational Health Centre</td></tr><tr><td>2</td><td>Ambulance</td></tr><tr><td>3</td><td>Fire Tender</td></tr><tr><td>4</td><td>Process Plant Control Room</td></tr><tr><td>5</td><td>Bottling Plant Process 1</td></tr><tr><td>6</td><td>Bottling Plant 2</td></tr><tr><td>7</td><td>Tank Farm</td></tr><tr><td>8</td><td>Old Material Gate</td></tr><tr><td>9</td><td>Canteen</td></tr><tr><td>10</td><td>Power Plant Control Room</td></tr><tr><td>11</td><td>P60 - 11KV Switchgear Room</td></tr><tr><td>12</td><td>CHP MCC Room</td></tr><tr><td>13</td><td>Old PMCC 2nd Floor</td></tr><tr><td>14</td><td>AAC Project Site</td></tr><tr><td>15</td><td>New Material Gate</td></tr></table>Sample photograph of First aid box in one of the locations (PMCC) is:
  </td></tr>
</table>

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

<table>
<tr><td>56</td><td>Training shall be imparted to all the workers on safety and health aspects of chemicals handling.</td><td>Complied
Unit is regularly imparting internal and external training to the employees and other stakeholders on safety aspects of chemical being handled.
Training details during April-Sept'18 is given as below:
<table>
<tr><th>S. No.</th><th>Training programme</th><th>No. of persons</th><th>No. Hrs. for each person</th><th>Total Nos. of Hrs</th></tr>
<tr><td>1</td><td>Induction- Contract employees</td><td>2457</td><td>1/2 hrs</td><td>1236</td></tr>
<tr><td>2</td><td>Induction- Company employees</td><td>47</td><td>1</td><td>47</td></tr>
<tr><td>3</td><td>On the job safety training including practical demo on use of PPEs</td><td>3017</td><td>1/2 hrs</td><td>1618</td></tr>
<tr><td>4</td><td>Respiratory protection (SCBA operation & Gas mask)</td><td>157</td><td>1</td><td>157</td></tr>
<tr><td>5</td><td>Chlorine handling awareness training</td><td>47</td><td>8 hrs</td><td>313</td></tr>
<tr><td>6</td><td>Role & Responsibility during emergency</td><td>16</td><td>8</td><td>128</td></tr>
<tr><td>7</td><td>Awareness programme on Environment week</td><td>71</td><td>1</td><td>71</td></tr>
<tr><td>8</td><td>Incident reporting & Safety culture</td><td>0</td><td>2</td><td>0</td></tr>
<tr><td>9</td><td>Fire fighting training</td><td>25</td><td>3.5</td><td>88</td></tr>
<tr><td>10</td><td>EHS Conference , Seminar & Work shops</td><td>6</td><td>8</td><td>24</td></tr>
<tr><td>11</td><td>Safety during chemical handling(For Driver)</td><td>10</td><td>1/2 hrs</td><td>5</td></tr>
<tr><td></td><td>TOTAL</td><td>5853</td><td></td><td>3687</td></tr>
</table></td></tr>
<tr><td>57</td><td>Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre -employment and periodical medical examination for all the workers shall be undertaken as per the factories act & rules.</td><td>Complied
Form no-32 being maintained for record of Occupational health of employees. Pre- employment medical checkup is conducted for all the employees and six monthly medical checkup being done. Records of the above being maintained.</td></tr>
<tr><td>58</td><td>Handling and charging of the chemicals shall be done in such a manner that minimal human exposure occurs.</td><td>Complied
Handling and charging of chemicals being done in closed circuits. Wherever possibility of exposure is perceived, necessary PPEs provided.
SOP No. SAC/PRD/WI-34/V.1.1/16.01.2017 of the Handling of chemicals is followed.</td></tr>
<tr><td>59</td><td>Transportation of hazardous chemicals shall be done as per the provisions of the motor vehicle act & rules.</td><td>Complied
The drivers of the vehicles transporting the chemicals are trained. TREM card and MSDS are provided with each vehicle transporting the hazardous chemicals.</td></tr>
<tr><td>60</td><td>The following noise control measures to be adopted:</td><td></td></tr>
</table>

DCM Shriram Limited • Unit: Shriram Akhaii & Chemicals • Dist. Bharuch.

	> Selection of any new plant equipment shall be made with specification of low noise levels. > Manufacturers / suppliers of major noise generating machine / equipment like air compressor, feeder pumps, turbine generator, etc. shall be instructed to make required design modification wherever possible before supply and installation to mitigate the noise generation and to comply with the national / international regulatory norms with respect to noise generation for individual units > Regular maintenance of machinery & vehicle shall be undertaken to reduce the noise impact. > Noise suppression measure such as enclosures, buffer &/ or protective measures shall be provided. > Employee shall be provided with ear protection measures like earplug or earmuffs. > Proper oiling, lubrication & preventive maintenance shall be carried out of the machineries & equipments to reduce noise generation. > Construction equipment generating minimum noise & vibration shall be chosen. > Ear plug / muff shall be made compulsory for the construction workers working the noise generating activities/ machine/ equipment. > Vehicle & construction equipment with internal combustion engines without proper silencer shall not allow to operate. > Construction equipment meeting the norms specified by the EP Act, 1986 shall be used. > Noise control equipment & baffling shall be employed on generators especially when they are operated near the residential & sensitive areas. > Noise level shall be reduced by the use of adequate mufflers on all motorized equipments	Maintenance department has prepared preventive maintenance schedule of machinery such as pumps, motors etc. to maintained the healthiness of all equipments and record will be maintained of the same. Prepared preventive maintenance schedule of machinery such as pumps, motors etc. to maintained the healthiness of all equipments and record will be maintained of the same. Acoustic hood have been provided to turbine to minimize the noise.  DG sets area also covered and ear protection PPE's is mandatory in this area.  Work place noise levels are monitored by the Company & by 3rd party on a monthly basis Ambient noise levels are monitored by the Company on a weekly basis Employees have been provided with the ear plugs and ear muffs as per the requirement Silencers provided to high pressure steam vents to control of noise 

61	The overall noise level in & around the plant area shall be kept well within the prescribed standards by providing noise control measures including acoustic insulation, hoods, silencers, enclosures, vibration dampers etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under the environmental (Protection) Act & rules. Workplace noise level for workers shall be as per the factories Act & rules.	Complied All possible noise control measures like acoustic insulation, hoods, silencers, enclosures, vibration dampers etc. on all sources of noise generation like Compressors, DG sets, Turbine etc. have been adopted. Ambient noise level measurement record is as under:

S. No.	Location	Area/ Zone	Time	Results in dB (A)		
				Max.	Min.	Average
1	Nr. Parking area	Industrial	Day time	68.4	67.8	68.1
2	Plant boundary at west side		Day time	72.1	69.3	70.8
3	Near Main Gate		Day	71.6	67.8	69.8
4	Material Gate		Day	74.3	67.5	71.3

Standard of Ambient Noise Level as per Noise Guidelines

Area Code	Category of Area / Zone	Limits in dB (A) leq	
		Day Time From 6.00 am to 9.00 pm	Night Time From 9.00 pm to 6.00 am
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Workplace noise level measurement record is as under:

S. No.	Location	Time	Results in dB (A)		
			Max.	Min.	Average
1	Nr. salt handling area	Day time	71.2	68.4	69.8
2	Opp. store	Day time	71.1	65.7	68.6
3	Nr. CTPH (Main)	Day time	73.4	69.5	71.5
4	Nr. compressor-Main Plant	Day time	70.9	67.6	69.1
5	Nr. Flaker plant	Day time	70.8	67.7	68.9
6	Nr. cell house	Day time	71.4	67.8	69.8
7	Nr. Flaker plant	Night	69.1	66.3	67.3
8	Nr. cell house	Night	69.7	63.8	68.0
9	Turbine generator hall	Day time	72.5	63.9	69.7
10	West side PP- D.G. set	Day time	73.6	65.6	70.4
11	CT-Pump house (CBPP)	Day time	73.2	70.2	71.4
12	Comp. area-boiler feed pump	Day time	71.1	68.4	69.8
13	Coal mill	Day time	72.4	66.1	69.5
14	Coal crusher	Day time	72.5	69.7	70.8
15	FD fan	Day time	71.4	67.6	69
16	ID fan	Day time	72.3	69.2	71
17	PA fan	Day time	73.1	68.4	71.5
18	CEP	Day time	71.1	68.8	70
19	Hydrogen Comp. Area	Day	72.2	68.9	70
20	Hydrogen filling post	Day	72.1	67.8	70.8
21	Outside P.P DG set	Day	73.9	70.9	72.4
22	DM plant tech. office	Day	70.2	66.9	68.2

Standard of Workplace Noise Level as per Gujarat Factories Act, 1965, Schedule- 23 limit is 90 dB.
Noise level is well within prescribed standard.

62	The project proponent shall install energy efficient device & appliances confirming to the Bureau of Energy Efficiency norms.	Complied SAC has installed energy efficient appliances complying to BEE norms, wherever possible. The zero gap new electrolyzers are highly energy efficient as compared to their older versions. 
63	The energy audit shall be conducted at regular intervals & the recommendation of the audit report shall be implemented.	Complied SAC conducts the Energy audit of the plant and equipment through 3rd party at regular intervals. The last audit was conducted by A-Z Energy Engineers Pvt. Ltd., Delhi. The recommendations have been implemented.
64	The project proponent shall implement the application of solar energy which shall be utilized as solar lighting for illumination of common areas, lighting of internal roads & passages in addition to utilization of solar water heating system.	Complied Unit has installed solar lights on internal roads and solar water heaters in the canteen.  Unit is further planning to install solar lights in 2018-19.
65	The transformers & motors shall have minimum efficiency of 85%	Complied Transformers and motors efficiency are maintained >85%. The efficiency range varies from 85.6 -95.2%.
66	Variable frequency drives shall be installed.	Complied Total 133 nos of VFDs have been installed in the complex. Out of which, 65 VFDs are in chlor alkali and 68 are in power plant.
67	Energy conservation measures shall include use of electronics lighting system, use of CFL tubes to minimize energy use. Use of programmable timers for pumping system & lighting, water level controller for water pumps, centralized cooling etc.	Complied Unit is using LED s and CFL tubes for minimization of energy consumption. Total of 1100 fittings have been installed. as a policy. Any replacement of the existing light is done with LEDs only. We have provided the float valves in water tanks and flow controllers/ sensors in water taps for conservation of water. We are using LED lights and energy efficient fans/ACs, etc in our regular use/replacement. We have provided timers at brine area and open area near to the material gate for street lighting. This is a part of DCM-SAC's energy conservation measure.
68	Energy saving practices as follows shall be practiced : * Constant monitoring of energy consumption & defining targets for energy conservation.	Complied & Noted Energy is a main input for DCM-SAC's operations. Targets for energy conservation have been defined in the business plan and continuously monitored.

DCM Shriram Limited • Unit-Shriram Alkali Chemicals • Dist. Bharuch • Jhagadia

	* Adjusting the setting & illumination level to ensure minimum energy used for desired comfort level. * Use of solar cells for lighting. *Use of solar water heater for canteen & washing area. *Proper load factor shall be maintained by the unit. *Provision of the day light roof to utilized maximum natural light in the production plant instead of electrical lighting. *Use of electronics ballast to save energy. *Automatic switch system for lighting & water tank pumping shall be used. *To the maximum extent possible & technically feasible, energy efficient equipment like motors, pumps, air conditioning system shall be selected. *Gravity flow shall be preferred wherever possible to save pumping energy. *Promoting awareness on energy conservation. *Training to the staff on method of energy conservation & to be vigilant for this.	In recognition of our efforts, we have been awarded no-1 in PAT scheme for Chlor-alkali industries by Bureau of Energy Efficiency. We are continuously monitoring and ensuring the illumination level for desired comfort Solar cells for street lighting is already implemented We have installed solar heater in canteen Load factor is maintained at the maximum In all DCM-SAC's operation sections, the provision of maximum day light is ensured Most of our operations in brine purification are by gravity flow We have trained energy managers and formulated a team for energy conservation. We regularly nominate the employees for external training and also conduct internal workshop for all employees
	CLEANER PRODUCTION & WASTE MINIMISATION	
69	The unit shall undertake the cleaner production assessment study through a reputed institute / organization & shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.	Complied Cleaner product team already exists. As per their recommendations, Unit has adopted membrane technology process for caustic production & Fluidized Bed combustion in boiler, using hydrogen for caustic concentration purpose, which are cleaner production method available as on date
70	The company shall undertake following waste minimization measure: • Metering & control of quantities of active ingredient to	Complied and Noted Metering of quantities of each active ingredient being done and optimized to reduce waste

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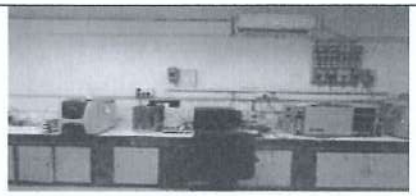
	minimization waste. • Reuse of by-product from the process as raw material or raw material substitutes in other process. • Use of automated & enclosed filing to minimize spillage. • Use of close feed system into batch reactor. • Dry cleaning / mopping of floor instead of floor washing. • Use of high pressure hoses for cleaning to reduce waste water generation. • Regular preventive maintenance for avoiding leakage, spillage etc.	Hydrogen is reused in making HCl, and as fuel substitute. Chlorine is reused for making Sodium Hypochlorite Caustic lye is filled by automatic filling and chlorine tonners are also filled with automatic filling with cut-off adjustment and overfilling alarm NA Dry cleaning of floor is done Cleaning is done with high pressure hoses only Preventive maintenance schedule is in place and being followed
	GREEN BELT & OTHER PLANTATION	
71	The unit shall develop green belt within premises as per CPCB guideline. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road side & suitable open areas in the GIDC estate, nearby schools, gram panchayat areas & other open areas in consultation with the GIDC/ local bodies/ GPCB & submit an action plan of plantation for next three	Complied Unit has developed a green belt within premises (i.e. **103600** m^2) as per the CPCB guidelines and directions issued by GPCB. Types of trees planted are silver oak, poplar, Neem, platform, palm etc.   We have planted 700 saplings during World Environment Day'18 celebration.   We have also expanded the greenbelt in GIDC estate and have planted 5000 saplings in GIDC area close to the Unit's boundary in 2016-17. GIDC has issued a Certificate of Plantation to us.

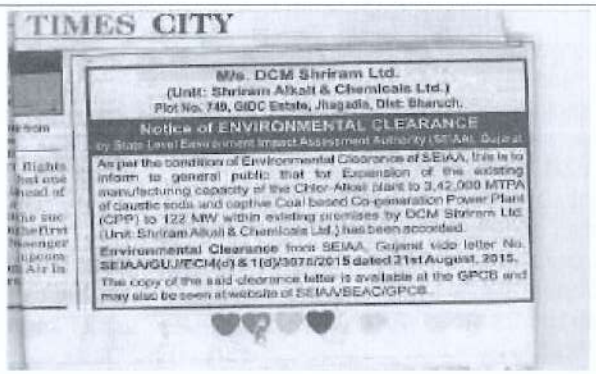
	years to the GPCB.	
	OTHER CONDITIONS :	
72	In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down & shall not be restarted until the desired efficiency of control equipment has been achieved.	Complied Chlorine sensors have been provided interlocked with auto controlled valves for shutting up of the operations in case of any abnormality.
73	The project authorities must strictly adhere to the stipulation made by the GPCB, state government & any statutory authority.	Complied We have obtained necessary approvals from GPCB, DISH, CCE, etc. to operate the facilities in the plant. the approvals have been granted with certain conditions by each agency, which are monitored and compliance report submitted periodically. The concerned authorities also conduct inspections of the compliance from time to time.
74	The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environment Protection (CREP) published by CPCB, as may be applicable.	Complied We arein compliance with the applicable provisions of CREP guidelines for Chlor-alkali plants and thermal power plants as under: The chlor-alkali process used in the plant is a Membrane cell based process. Hence, as applicable, in the guideline, the unit has adopted the pollution and safety aspects for Cl2 handling to prevent any accident / release of Cl2 The fly ash generated in the Captive Power plant is provided to Fly ash brick & cement manufacturers
75	Pucca flooring/ impervious layer shall be provided in the work areas, chemical storage area & chemical handling areas to minimize soil contamination.	Complied All roads and working areas are either of RCC or asphalt cover to make it impervious in order to prevent soil contamination. All the work areas, storage areas are RCC and waste storage areas are also covered as per standard guidelines so as to prevent soil contamination. In Chemical storage area and chemical handling area, the RCC floor and collection & recovery system with bond walls are in place. Any civil activity occurring due to project activities, is finally covered with pucca floor only.
76	Leakages from pipes, pumps shall be minimal & if occurs, shall be arrested promptly.	Complied If there is any leakages in the plant, it is attended immediately
77	All the recommendations made in the EIA/ EMP & other documents submitted by the project proponent shall be strictly implemented.	Complied EIA/EMP recommendations have been implemented.
78	A separate environment Management Cell equipped with full fledge laboratory facilities & qualified personnel shall be set up to carry out the environment management function & a separate budget shall be allocated for this purpose.	Complied Separate environment cell has been formed under Addl. GM (EHS), who is a doctorate having more than 32 years' experience in the field. We have a full fledged laboratory that consists of 05 officers and 14 chemists. It has all latest laboratory equipments like- ICP, AAS, UV-VIS spectrophotometer, etc. for analysis and monitoring of all environmental parameters. The laboratory incharge reports to EHS head on environmental analysis matters

<table>
<tr><td></td><td></td><td>   </td></tr>
<tr><td>79</td><td>The funds earmarked for environment protection measures shall be maintained in a separate account & there shall not be any diversion of these funds for any other purpose. A year-wise expenditure on environmental safeguards shall be reported.</td><td>Noted and complied
The year wise environmental expenses are in line with the funds earmarked for environment protection measures as given in the following table:
<table><tr><th>Sr. No.</th><th>Year</th><th>Environment funds Amount (Rs / lakhs)</th></tr><tr><td>1</td><td>2015-16</td><td>0.33</td></tr><tr><td>2</td><td>2016-17</td><td>15.69</td></tr><tr><td>3</td><td>2017-18</td><td>9.45</td></tr></table>The Funds for environmental expenses are not diverted for any other purpose.</td></tr>
<tr><td>80</td><td>The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA any other component authority for the purpose of the environmental protection & management.</td><td>Complied
• Letter no. J-11011/404/2008-IA-II(I) dated 18th Feb. 2009
• Letter no. J-11011/404/2008-IA-II (I) dated 22nd September, 2008
• Letter no. J-11011/52/2003-IA-II (I) dated July 17, 2003
• Letter no. J-11011/71/2000-IA-II (I) dated January 8, 2002
• Letter no. J-11011/38/95-IA.II(I) dated 25th Mar 1996</td></tr>
<tr><td>81</td><td>The company shall undertake all relevant measures for improving the socio-economic condition of the surround area. CSR activities shall be undertaken by involving local villages & administration.</td><td>Complied
Unit encourages local people for engagement in the jobs in the factory and its supplies.

Unit carry out regular CSR activities involving local villages and administration for improvement of socio economic condition of the surround area

Photos of CSR activities are attached
   </td></tr>
<tr><td>82</td><td>No further expansion or modification in the plant likely to cause environment impact shall be carried out without obtaining prior environment clearance from the concerned authority.</td><td>Noted
Unit had applied for prior Environmental Clearance for expansion of chlor-alkali plant from 342000 MTPA caustic to 508000 MTPA caustic</td></tr>
<tr><td>83</td><td>The above condition will be enforced, inter-alia under the provision of the water (preservation & control of pollution act, 1974, Air (prevent & control of pollution) Act, 1981.</td><td>We have obtained CCA from GPCB under the water (preservation & control of pollution act,1974, Air (prevent & control of pollution) Act,1981. the Environment (protection) Act,1986. Hazardous waste(Management, Handling & Transboundary movement) rules,2016, & the public liability insurance Act,1991. along with their amendments & rules and they are valid for the existing operations.</td></tr>
</table>

	the Environment (protection) Act, 1986. Hazardous waste (Management, Handling & Transboundary movement) rules, 2008 & the public liability insurance Act, 1991 along with their amendments & rules.	
84	The company shall undertake socio-economic developmental / community welfare activities in consultation with the District development officer / District Collector.	Complied We have distributed scholarship cheques to local meritorious students of nearby villages through the SDM on dated 16.06.2017 Unit has renovated school and community building at Boridra village and donated computers. Unit also distributes scholarship to student at Kapalsadi, Sardarpura, Dadheda and Selod every year on regular basis in the hands of the local government authorities/ representatives. Eye camp organized by unit at Sardarpura. Unit has also contributed to develop rain water harvesting structures nearby Kapalsadi village. Unit has constructed toilets for the nearby villages 
85	The project authorities shall earmark adequate funds to implements the condition stipulated by SEIAA as well as GPCB along with implementation schedule for all the condition stipulated herein. The funds so provided shall not be diverted for any other purpose.	Complied There is no fund constraint for carrying out the Environment jobs. In case of any emergent requirements not considered in the budget also, our management sanctions the fund for such jobs. We have implemented the remote calibration facilities for all CEMS with an investment of 120 lakh rupees in September 2018. Environment funds are not diverted for any other purpose
86	The applicant shall inform the public the project has been accorded environmental clearance by the SEIAA & that the copies of the clearance letter are available with the GPCB & may also be seen at the website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspaper that are widely circulated in region,	Complied Public has been informed about this through local newspapers. Copy of the paper cuttings have been submitted to your office, vide letter no. SAC-SHE-E-FL-08, dated:28.05.2016

	one of which shall be in the Guajarati language & the other in English. A copy each of the same shall be forwarded to the concerned Region office of the ministry.	 TIMES CITY M/s. DCM Shriram Ltd. (Unit: Shriram Alkali & Chemicals Ltd.) Plot No. 749, GIDC Estate, Jhagadia, Dist: Bharuch. Notice of ENVIRONMENTAL CLEARANCE As per the condition of Environmental Clearance of SEIAA, this is to inform to general public that for Expansion of the existing manufacturing capacity of the Chlor-Alkali plant to 3,42,000 MTPA of caustic soda and captive Coal based Co-generation Power Plant (CPP) to 122 MW within existing premises by DCM Shriram Ltd. (Unit: Shriram Alkali & Chemicals Ltd.) has been accorded. Environmental Clearance from SEIAA, Gujarat vide letter No. SEIAA/GU/ECH(e)&T(d)/3078/2015 dated 21st August, 2015. The copy of the said clearance letter is available at the GPCB and may also be seen at website of SEIAA/SEAC/GPCB.  Copies of the above have been submitted to RO of the ministry, vide our letter no. SAC-SHE-E-FL-11, dated on 30.11.2015.
87	It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms & condition in hard & soft copies to the regulatory authority concerned, on 1st June & 1st December of each calendar year.	Complied Regular Half yearly compliance report is submitted to MoEFCC-RO, CPCB-ZO, SEIAA (Gujarat) and GPCB by mail and hardcopies before 1st June and 1st December every year as per the requirement. Last report for the period October-17 to March-18 was submitted, vide our letter no. SAC-SHE-E-FL-08/18-19/01 dated 28th May,2018
88	Concealing factual data or submission of false/ fabricated data & failure to comply with any of the condition mentioned above may result in withdrawal of this clearance & attract action under the provision of Environment (protection) Act,1986.	Noted. The above information provided are true to the best of our knowledge.
89	The project authorities shall also adhere to the stipulation made by the GPCB.	Noted and Complied We have received CCA NO: W-88011 dated 07/09/2017 and adhere to the conditions mentioned in the CCA.
90	The SEIAA may revoke or suspended the clearance, if implementation of the above condition is not found satisfactory.	Noted Implementation of the conditions is satisfactory and duly verified by the authorities, like-GPCB and MoEFCC from time to time.
91	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional	Complied Project is already implemented and commissioned on 08.11.2016

	condition, if the same is found necessary.	
92	The project authorities shall inform the GPCB, regional office of MoEF & SEIAA about the date of financial closure & final approval of the project by the concerned authorities & the date of start of the project.	Complied Date of start of the project, approval by concerned authorities and date of commissioning of the project informed to GPCB. It is updated on XGN at time of CTE application.
93	This environment clearance Is valid for seven years from the date of issue.	Noted. The project has been executed and the plant commissioned on 08.11.2016
94	Any appeal against environment clearance shall lie with the National Green Tribunal, if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted. We are not having any such issue.

Shriram Limited • DCM • Jhagadia, Dist. Bharuch • Unit: Shriram Alkali & Chemicals

S. no.	CONDITION	STATUS
Environmental Clearance from MoEF- Letter no. J-11011/404/2008-IA-II(I) dated 18th Feb. 2009		
1	The effluent generation shall not exceed 460 m^3/d as per the consented capacity.	The condition is being followed. ➢ We reiterate and commit that total treated effluent quantity is not exceeding our present consented quantity of 460 m3/day. ➢ The effluent discharge quantities reported by NCTL are based on flow meter & totalizer under NCTL's supervision.
2	DG Sets shall be given acoustic treatment as per the CPCB standards.	➢ We have enclosed the DG sets area with hollow blocks to absorb the noise 
3	The sulphur emission shall not exceed 241 kg/hr and shall remains per the existing level by taking measures such as adjusting the quantity of fuel and sulphur content etc.	Total sulphur emission from DG set operation through flue gases is well below 241 kg/hr.
4	All other conditions stipulated vide ministry's earlier letter of even no. dated 22nd September 2008	Point noted & complied We comply with all the conditions of the earlier EC. Since many of them are repeated in the next EC, details of compliance is not repeated for each and in short reference is made.
5	The company shall obtain fresh environmental clearance in case there is a change in the scope of the project.	Point noted. We have obtained fresh EC for our expansion projects in the year 2015.
Letter no. J-11011/404/2008-IA-II (I) dated 22nd September, 2008 granted by Ministry of Environment & Forest		
Specific condition		
1	The process effluent generation from the Chlor alkali plant shall not exceed 1254 m^3/d. As per the commitment the effluent discharge after expansion shall not exceed the existing level of 460 m^3/d by taking recycle/ reuse measures by recycling of 838 m3/d of the effluent from various streams as per the scheme submitted to the ministry.	The condition is being followed. ➢ We reiterate and commit that total treated effluent quantity is not exceeding our present consented quantity of 460 m^3/day. ➢ We are complying with GPCB norms for effluent discharge.

	The treated effluent shall conform to the standards prescribed under Environment (Protection Act, 1986. The domestic effluent shall be treated in septic tank followed by disposal in soak pits.	 Domestic effluent is being treated in septic tank followed by disposal in soak pit system.
2	GPCB shall not permit any new discharges from new industries or expansion of existing industries in the area that lead to CETP Panoli and FETP Ankleshwar unit till the said CETP's and FETP meet the required standards and have adequate hydraulic capacities.	Noted.
3	Particulate emissions from the coal based captive power plant shall be controlled by installation of electrostatic precipitator and emissions shall be dispersed through stack of 85 m height. Particulate emission shall conform to the prescribed standards. For dispersion of emission from the Dg set, stack height as per CPCB standards shall be provided. Emissions from the DG Sets shall conform to the standards prescribed by the CPCB.	61 MW coal based power plant: ➢ 7 field ESP (Against usually 4 field) already installed. - To control particulate emission & - Ensuring compliance of prescribed standard for particulate emission.  ➢ 85 m stack height provide based on the standard formula ($h= 14\ Q^{0.3}$) for effective dispersion. 24 MW HFO based DG Set. ➢ As Such the DG Set is sparsely operated as mentioned earlier. ➢ 58 m stack height provided based on the standard formula ($h=14\ Q^{0.3}$) given by CPCB. ➢ Emissions from the DG Sets are conforming to the standards prescribed by the CPCB. 
4	The project authorities shall comply with the recommendations made in the EIA/EMP report. The company shall install online chlorine gas detectors to detect leakage of chlorine at liquid storage tanks, chlorine bottling area, sodium hypo plant at vent pipe, HCl synthesis unit and Electrolyser area.	Point noted & being complied with. ➢ 35 nos of On line chlorine gas detectors are installed at desired location to detect chlorine gas. All the detectors are connected with DCS.

	Caustic scrubber shall be provided in the HCl plant for absorption of chlorine / HCl form the stack. Dykes of adequate height shall be provided around the HCl acid tanks to collect the acid within the dyke walls in the event of catastrophic failure of the tank.	➢ Caustic scrubber provided in the HCl plant for absorption of trace chlorine / HCl vapour. ➢ Dyke wall of sufficient height has been provided around the HCl tanks. As a further step, we have put lime stone in the dyke wall area for neutralisation of spilled hydrochloric acid.
5	The vent gases from sodium hydrochloride plant and HCl acid plant shall be controlled at source by effective absorption system so that chlorine concentration in the vent gases shall not exceed 9 mg/Nm3. Waste chlorine gas shall be used in preparation of HCl. The vent gases shall be discharged from the stacks of adequate height for effective dispersion. Chlorine sensors shall be installed to monitor Cl_2.	➢ For effective absorption of trace chlorine, a caustic scrubber is provided in the sodium hypochlorite plant & HCl plant. ➢ Emission from the Hypo plant & HCl plant are regularly monitored and found to be complied with the prescribed standards. ➢ Adequate stack height of 30 m has been provided for effective dispersion with caustic scrubber. Further this height is more than 3 m above the roof of the plant immediate adjacent to it. ➢ Chlorine sensors have been installed at desired locations (16 locations covering all area where chlorine exposure is possible) and are connected with DCS.
6	The solid waste including ETP sludge shall be disposed of in the secured landfill site within the plant premises approved by the Gujarat state pollution control board. Construction of secured landfill facility shall be as per the CPCB guidelines.	➢ Solid wastes, including ETP sludge (if any) and Brine sludge are disposed of in a secured landfill facility within factory premises operated under oversight of GPCB. ➢ Further this facility has been inspected and declared to be adequately designed and constructed by schedule I auditor under the honorable high court of Gujarat audit scheme (namely national productivity council / V.V.P Engineering college Rajkot) competent authorities. ➢ As a first phase, we have created a secured landfill facility duly approved (By GPCB) / constructed at the cost of Rs. 60 lacs and solid waste is disposed there. ➢ Second phase of secured landfill facility has been constructed as per the CPCB guideline and duly approved (by GPCB) / constructed at the cost of Rs. 76 lacs. And solid waste is disposed there. ➢ Third phase of secured landfills facility constructed as per MSW guidelines with 1.5 mm HDPE liner at the cost of Rs. 65 lacs. ➢ The filled SLFs will be covered as per the requirement with HDPE liner ad fresh soil. Grass and small herbs will be planted over the covered SLFs and maintained, as per the requirement.
7	The company shall develop rainwater harvesting structures to harvest the run off water from the rooftops and by laying a separate storm water drainage system for recharge of ground water and	➢ The site is entirely reliant on surface water supplied by the GIDC and sourced from Narmada River which flows nearby. There is no groundwater withdrawal whatsoever.

	to reduce the withdrawal from the ground water.	➢ Rain water harvesting structures have been developed at a cost Rs. 21 lacs and are in operation.
8	Greenbelt of adequate width and density in an area of 9 ha shall be provided to mitigate the effect of fugitive emission all around the plant. The development of green belt along the boundary walls, open space and avenue roads should be in consultation with the local DFO or any of the agencies having expertise in this area.	➢ The Local Forest Ranger of Jhagadia had been consulted regarding suitability of the plants for this land. A recommendation letter in this regard from the present Ranger has also been obtained.
General condition		
1	The project authorities shall strictly adhere to the stipulations made by the Gujarat state pollution control board.	SAC Strictly adheres to any stipulations made by the Gujarat Pollution Control Board as and when such stipulations are made.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment & Forest. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance a fresh reference should be made to the ministry to assess the adequacy of conditions imposed and to do add additional environmental protection measures required if any.	Point noted. Fresh environmental clearance has been applied for which ToR letter dated 10th October 2014 has been received.
3	The project authorities shall strictly comply with the rules and regulations under manufacture storage and import of hazardous chemicals rules, 1989 as amended in October 1994 and January,2000. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosive, Fire Safety Inspectorate etc. must be obtained.	We are complying with this rule. ➢ We have obtained all necessary approvals from Chief Inspectorate of Factories for factory layout and operation, Chief Controller of Explosive for chlorine storage and filling, hydrogen handling, FO storage, etc., as per the requirement
4	The Project authorities shall strictly comply with the rules and regulations with regards to handling and disposal of hazardous wastes in accordance with the hazardous wastes (Management and Handling) Rules, 2003. Authorizations from the state pollution control Board must be obtained for collections/ treatment / storage/ disposal of hazardous wastes.	Point noted & complied with.
5	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) 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 EPA Rules, 1989 viz. 75 dBA (day time) and 70 (dBA (night time).	➢ We are getting noise level less than 85 dBA at all the machinery except at turbine / DG Sets. We are monitoring noise level at locations where people are normally working and chances of maximum noise are there. We are also monitoring noise level at noise source (1 meter away from the source). ➢ Noise exposure to persons working in Turbine / DG sets area is kept minimum by using appropriate earplugs/ear muffs. ➢ We have enclosed the Dg sets area with hollow blocks to absorb the noise. ➢ Regular preventive checking / maintenance schedule is followed to minimize noise from the machinery.

DCM Shriram Alkali & Chemicals Limited, Unit: Jhagadia, Dist. Bharuch

6	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre should be strengthened and the medical records of each employees should be maintained separately.	➢ We have carried out occupational health surveillance programme. ➢ Regular medical checkup of all the employees is being carried out six monthly. Persons working in area where exposure of chlorine & noise is there are being examined for pulmonary function test and audiometry test respectively. In such area, job rotation is resorted to minimize risk of chronic occupational health related ailments. Medical record of all employees is being maintained separately. ➢ Out unit was certified under occupational health & safety Management system (OHSAS:18001) by M/s. KPMG , Switzerland in Jan'02 and subsequent surveillance and recertification audits have since been carried out by M/s. ISOQAR (India) Pvt. Ltd., agency for continual improvement of the OHS Management System.
7	The project proponent shall also comply with all the environmental protection measures and safeguard recommended in the EIA and Risk analysis report. The company must also undertake social welfare / community development measures in the surrounding villages, such as health care, education and drinking water supply facilities.	It is being complied with. ➢ EIA of the plant was done in 2015 last, wherein the recommendations and requirements have been changed. We are monitoring their compliance on regular basis and the status is submitted.
8	A separate environmental management cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	➢ We have a separate environmental cell and the head of this cell is reporting directly to unit head. ➢ We have a full fledged laboratory with latest equipments and trained staff. They carry out the monitoring on regular basis. However, the 3rd party environmental monitoring is also being undertaken as they are MOEFCC recognized and NABL accredited.
9	The project authorities shall provide adequate funds both recurring and non recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the state Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.	Complied Sufficient funds have been provided for compliance of the conditions and they are satisfactorily complied.
10	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 state pollution control board / committee and may also be seen at website of the ministry of environment and forests at http:/envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter, at least 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 should be forwarded to the regional office.	Point noted & complied with. ➢ Environmental clearance accorded by MoEF published in following two local newspapers as desired. 1. The times of India (English language) dated 26.09.08 2. The Gujarat Samachar (Vernacular language) dated 26.09.08 ➢ Copy of the environmental clearance letter submitted to the region office at Bharuch & head office at Gandhinagar of Gujarat Pollution Control board on 25.09.08.

11	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 commencing the land development work if any.	Date of start of the project, approval by concerned authorities and date of commissioning of the project informed to GPCB. It is updated on XGN at time of CTE application
12	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Point noted. All conditions have been complied satisfactorily.
13	The ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions.	Point noted Any condition laid by the authority is complied.
14	Any appeal against this environmental clearance shall lie with the national environment appellate authority. Id preferred within a period of 30 days as prescribed under section 11 of the national environment appellate authority act 1997.	Point noted We do not find any issue to appeal
15	The above conditions will be enforced inter alia under the provisions of the water (preventions & control of pollution) act, 1974 Air (Prevention 7 Control of pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous waste (management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Point noted We have obtained the CTE and CCA for project implementation and operation, respectively.

Environmental Clearance from MoEF- Letter no. J-11011/52/2003-IA-II (I) dated July 17, 2003

A	SPECIFIC CONDITIONS	
1	All the conditions stipulated by the Ministry while according environmental clearance to the existing project vide its letter No. J-11011/71/2000-IA,II(I) dated 8th January, 2000 should be strictly implemented.	DCM-SAC strictly adheres to any stipulations made by the Regulatory authorities. Since the EC has been amended afterwards, the condition is repeated and the details of compliance given against that clause in amended ECs.
2	As per the commitment the effluent generation after expansion should not exceed the existing level of 460 m3/d by taking recycle / reuse measures as per the scheme submitted to the ministry. The treated effluent should conform to the standards stipulated by the GPCB while granting NOC to the expansion project and standards vide its gazette notification dated 30th October,2001 before discharging into sea via Amlakhadi drain.	This condition is no more valid, since this has been revalidated and mentioned in EC Condition no: 04 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015. The discharge limit has increased to 861 KL/day and mode of discharge has also changed. The discharge parameters comply to the requirements mentioned in CTE and CCA. The effluent is discharged into deep sea via Jhagadia above ground pipeline network.
3	As the company has given a commitment that the effluent load will not increase from the current levels. A minimum of 579 m3/d of treated effluent must be recycled.	This condition has been revalidated and mentioned in EC Condition no: 05 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
4	Emissions from the DG Sets should conform to the	Emissions from the DG Sets are conforming to the

	standards prescribed by GPCB.	standards prescribed by the CPCB.
4	The solid waste including ETP sludge should be disposed off in the secured landfill site approved by the Gujarat State pollution control board. Any further extension or creation of new secured landfill facility should, be as per the CPCB guidelines.	This condition has been revalidated and mentioned in EC Condition no: 34, 35 and 36 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
5	The company should develop rainwater harvesting structures to harvest the runoff water from the rooftops and by laying a separate storm water drainage system for recharge of ground water and to reduce the withdrawal from the ground water.	➢ The site is entirely reliant on surface water supplied by the GIDC and sourced from Narmada River which flows nearby. There is no groundwater withdrawal whatsoever. ➢ Rain water harvesting structures have been developed at a cost Rs. 21 lacs and are in operation.
6	Green belt of adequate width and density in an area of 1 ha. In addition to the 8 ha. Of the plant area already afforested should be provided to mitigate the effects of fugitive emission all around the plant. The development of green belt along the boundary walls, open space and avenue roads should be in consultation with the local DFO or any of the agencies having expertise in this area.	The condition is no more valid, since it has been revised in later ECs. We have made more plantation inside the complex and in GIDC area outside the fence. The status has been already informed. ➢ The Local Forest Ranger of Jhagadia had been consulted regarding suitability of the plants for this land. A recommendation letter in this regard from the present Ranger has also been obtained.
7	The project authorities should comply with the recommendations made in the Risk Analysis report. The company should install chlorine gas detectors to detect leakage of chlorine at liquid chlorine storage tanks, chlorine bottling area, sodium hypo plant at vent pipe, HCl synthesis unit at vent pipe and electrolyser area. The company should install on line Hydrogen in chlorine analyser.	This condition has been revalidated and mentioned in EC Condition no: 47 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
B	**GENERAL CONDITIONS**	
1	The project authorities must strictly adhere to the stipulations made by the Gujarat state pollution control board.	SAC Strictly adheres to any stipulations made by the Gujarat Pollution Control Board as and when such stipulations are made.
2	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this ministry for clearance, a fresh reference should be made to the ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Point noted.
3	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Prior approvals from chief inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.	Complied We have obtained all necessary approvals from Chief Inspectorate of Factories for factory layout and operation, Chief Controller of Explosive for chlorine storage and filling, hydrogen handling, etc., as per the requirement

4	The Project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the hazardous wastes (Management and Handling) Rules, 2003. Authorities from the state pollution control board must be obtained for collections / treatment/ storage disposal of hazardous wastes.	This condition has been revalidated and mentioned in EC Condition no: 33 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
5	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 (dBA (night time).	➢ We are getting noise level less than 85 dBA at all the machinery except at turbine / DG Sets. We are monitoring noise level at locations where people are normally working and chances of maximum noise are there. We are also monitoring noise level at noise source (1 meter away from the source). ➢ Noise exposure to persons working in Turbine / DG sets area is kept minimum by using appropriate earplugs/ear muffs. ➢ We have enclosed the turbine with acoustic hood to absorb noise.
6	Occupational health surveillance programme should be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre should be strengthened and the medical records of each employee's should be maintained separately.	➢ We have carried out occupational health surveillance programme. ➢ Regular medical checkup of all the employees is being carried out six monthly. Persons working in area where exposure of chlorine & noise is there area being examined for pulmonary function test and audiometry test respectively. In such area, job rotation is resorted to minimize risk of chronic occupational health related ailments. Medical record of all employees is being maintained separately.
7	The project proponent shall also comply with all the environmental protection measures and safeguard recommended in the EIA and Risk analysis report. The company must also undertake social welfare / community development measures in the surrounding villages, such as health care, education and drinking water supply facilities.	It is being complied with. ➢ The company regularly undertakes social welfare /community development measures in the surrounding villages.
8	A separate environmental management cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	The unit has established a separate Environmental Management Cell. The Head of this cell reports directly to the Unit Head. It has also a full fledged laboratory. The lab incharge reports to the EHS head on environmental analysis matters.
9	The project authorities will provide adequate funds both recurring and non recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the state Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.	Adequate funds (both recurring as well as non-recurring) are provided by the Unit for implementation of conditions stipulated by MoEFCC as well as SEIAA (State Govt.). These are not diverted for any other purpose. The jobs have been completed long back and further upgradations done as per the latest requirements
10	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's regional office at Bhopal/ State pollution control board / Central Pollution control board. A Six monthly compliance status report should be submitted to monitoring agencies.	Complied Regular compliance reports submitted as per the requirement. Last report for the period October-17 to March-18 was submitted, vide our letter no. SAC-SHE-E-FL-08/18-19/01 dated 28th May,2018

11	The Project proponent should inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the state pollution control board / committee and may also be seen at website of the ministry of environment and forests at http:/envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter, at least 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 should be forwarded to the regional office.	This condition has been revalidated and mentioned in EC Condition no: 86 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
12	The project authorities should 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 commencing the land development work if any.	Date of start of the project, approval by concerned authorities and date of commissioning of the project informed to GPCB. It is updated on XGN at time of CTE application

Environmental Clearance from MoEF -Letter no. J-11011/71/2000-IA-II (I) dated January 8, 2002		
A	**SPECIFIC CONDITIONS**	
1	All the conditions stipulated by the Ministry while according environmental clearance to the existing project vide its letter No. J-11011/38/95-IA,II(I) dated March 25, 1996 should be strictly implemented.	SAC Strictly adheres to any requirements made by the Regulatory authorities as and when such stipulations are made. Not mentioned in detail due to repetition of the condition in the later ones.
2	As per the commitment the effluent generation should not exceed the existing level of 460 m3/d. The unit shall strictly adhere to the undertaking dated 13th July, 2001 submitted before Hon'ble Gujarat High Court with respect to High Court Order dated 6th July, 2001 is SCA-3960 of 2001. The treated effluent should conform to the prescribed standards before discharge.	Complied This condition is no more valid as it has been revalidated and mentioned in EC Condition no: 04 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015. The discharge limit has increased to 861 KL/day and discharge mode has also changed. The discharge parameters comply to the requirements mentioned in CTE and CCA. The effluent is discharged into deep sea via Jhagadia above ground pipeline network.
3	As the company has given a commitment that the effluent load will not increase from the current levels, details of recycling and related technical aspects may be furnished before project commissioning. A minimum of 140 m3/d of treated effluent must be recycled.	Complied This condition has been revalidated and mentioned the EC Condition no: 05 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
4	The solid waste including ETP sludge should be disposed off in the secured landfill site approved by the Gujarat State pollution control board.	Complied This condition has been re validated and mentioned in EC Condition no:34,35,36 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
5	The company should develop rainwater harvesting structures to harvest the runoff water from the rooftops and by laying a separate storm water drainage system for recharge of ground water and to reduce the withdrawal from the ground water.	➢ Rain water harvesting structures have been developed at a cost Rs. 21 lacs and are in operation.
6	Green belt of adequate width and density in 25% of project area should be provided to mitigate the efforts of fugitive emission all around the plant. The development of green belt along the boundary walls, open space and avenue roads should be in consultation with the local DFO or any of the agencies having expertise in this area.	The condition is no more valid, since it has been revised in later ECs. We have made more plantation inside the complex and in GIDC area outside the fence. The status has already been informed. ➢ The Local Forest Ranger of Jhagadia had been consulted regarding suitability of the plants for this land. A recommendation letter in this regard from the present Ranger has also been obtained.
B	**GENERAL CONDITIONS**	
1	The project authorities must strictly adhere to the stipulations made by the Gujarat state pollution control board.	SAC Strictly adheres to any stipulations made by the Gujarat Pollution Control Board as and when such stipulations are made.

2	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this ministry for clearance, a fresh reference should be made to the ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Point noted.
3	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Prior approvals from chief inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.	We have obtained all necessary approvals from Chief Inspectorate of Factories for factory layout and operation, Chief Controller of Explosive for chlorine storage and filling, hydrogen handling, etc., as per the requirement
4	The Project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the hazardous wastes (Management and Handling) Rules, 1989, as amended in January,1994 and in January, 2000. Authorities from the state pollution control board must be obtained for collections / treatment/ storage disposal of hazardous wastes.	Complied ➢ We have obtained authorization for handing, storage & disposal of Hazardous waste from GPCB. This condition has been revalidated and mentioned in EC Condition no: 33 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
5	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 (dBA (night time).	➢ We are monitoring noise level at locations where people are normally working and chances of maximum noise are there. We are also monitoring noise level at noise source (1 meter away from the source). ➢ Noise exposure to persons working in Turbine / DG sets area is kept minimum by using appropriate earplugs/ear muffs. We have enclosed the turbine with acoustic hood to absorb noise
6	Occupational health surveillance programme should be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre should be strengthened and the medical records of each employee's should be maintained separately.	➢ We have carried out occupational health surveillance programme. ➢ Regular medical checkup of all the employees is being carried out six monthly. Persons working in area where exposure of chlorine & noise is there area being examined for pulmonary function test and audiometry test respectively. In such area, job rotation is resorted to minimize risk of chronic occupational health related ailments. Medical record of all employees is being maintained separately.
7	The project proponent shall also comply with all the environmental protection measures and safeguard recommended in the EIA and Risk analysis report. The company must also undertake social welfare / community development measures in the surrounding villages, such as health care, education and drinking water supply facilities.	Being complied with. The fresh EIA was carried out in 2015 and the requirements have increased and changed. We monitor their compliance and report to the concerned from time to time. The company regularly undertakes social welfare /community development measures in the surrounding villages.

8	A separate environmental management cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	The unit has established a separate Environmental Management Cell. The Head of this cell reports directly to the Unit Head. it has also a full fledged laboratory. The lab incharge reports to the EHS head on environmental analysis matters.
9	The project authorities will provide adequate funds both recurring and non recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the state Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.	This condition has been revalidated and mentioned in the EC Condition no: 79 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 Adequate funds (both recurring as well as non-recurring) are provided by the Unit for implementation of conditions stipulated by MoEFCC as well as SEIAA (State Govt.). These are not diverted for any other purpose. The jobs have been completed long back and further upgradations done as per the latest requirements
10	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's regional office at Bhopal/ State pollution control board / Central Pollution control board. A Six monthly compliance status report should be submitted to monitoring agencies.	Complied Regular compliance reports submitted as per the requirement Last report for the period October-17 to March-18 was submitted, vide our letter no. SAC-SHE-E-FL-08/18-19/01 dated 28th May,2018
11	The Project proponent should inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the state pollution control board / committee and may also be seen at website of the ministry of environment and forests at http:/envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter, at least 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 should be forwarded to the regional office.	This condition has been revalidated and mentioned in EC Condition no: 86 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
12	The project authorities should 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 commencing the land development work if any.	Complied ➢ Environmental clearance accorded by MoEF published in following two local newspapers as desired. This condition has been revalidated and mentioned in EC Condition no: 86 of the fresh EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 Date of start of the project, approval by concerned authorities and date of commissioning of the project informed to GPCB. It is updated on XGN at time of CTE application

	Environmental Clearance from MoEF- Letter no. J-11011/38/95-IA. II(I) dated 25th Mar 1996	
i	The Project authorities must strictly adhere to the stipulation made by the state pollution control board and the state govt.	This condition has been revalidated and mentioned in EC Condition no: 73 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
ii	No expansion or modification of the plant should be carried out without prior approval of this ministry.	This condition has been revalidated and mentioned in EC Condition no: 82 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
iii	Gaseous (Cl_2, SO_2, NOx and HC) and particulate emissions from the various process vents and storage tanks should conform to the standard prescribed by the competent authorities, from time to time. AT no time, the standards. In the events of failure of any pollution control system adopted by the units, the respective unit should be restarted until the pollution control measures are rectified to achieve the desire efficiency.	This condition has been revalidated and mentioned in EC Condition no: 19, 20,21,22,32 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015

iv	At least three ambient air quality monitoring stations should be established in the down wind direction as well as where maximum ground level concentrations of SPM, SO2, NOx, and Cl2 are anticipated. The selection of the AAQ monitoring stations should be based on modeling exercise to represent short term ground level concentration, sensitive target etc. in consultation with the state pollution control board. Stack emission should also be regularly monitored by installing stack monitoring devices in consultation with the state pollution control board. Data on AAQ and stack emission should be submitted regularly to this ministry once in six months and the state pollution control board once in three months along with the statistical analysis and interpretation.	This condition has been revalidated and mentioned in EC Condition no: 19, 20,21,22,32 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 The three AAQM stations are established at the site and are operational. The selection of the site is done as per the requirement and it has been verified by the GPCB authorised A-class auditors Stack gas emissions are monitored by 3rd party laboratories recognised by MoEFCC. Online instruments with remote calibration facilities have been installed for each stack and communicated to CPCB and GPCB as per the requirement. Data AAQ and stack emission is submitted regularly to MoEFCC once in six months through compliance reports and to GPCB once in every month (by uploading on XGN portal) along with the statistical analysis and interpretation.
v	Fugitive emissions should be controlled, regularly monitored and data recorded. Chlorine sensors should be installed in the chlorine storage area at lower level between the tanks.	This condition has been revalidated and mentioned in EC Condition no: 29, 30 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
vi	Liquid effluent coming out of the plant and the township should conform to the standards as prescribed by the state pollution control board and the ministry of Environment & Forest under the Environment (Protection) Act, 1986. Recycling and reuse of the treated waste water should be maximized to the extent possible.	This condition has been revalidated and mentioned in EC Condition no: 6, 8 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
vii	Adequate measures for the control of noise should be taken so as to keep noise levels below 85 dB in the work environment. Person working near the noisy machines like blowers, compressors etc. should be provided with well designed ear muffs/plugs. Besides, measures should be taken to reduce the noise by engineering methods.	This condition has been revalidated and mentioned in EC Condition no: 60, 61 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
viii	Occupational health surveillance programmed should be undertaken as a regular exercise especially with respect to exposure to chlorine, thermal stresses and noise pollution.	This condition has been revalidated and mentioned in EC Condition no: 57 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015

ix	A green belt of adequate width and density (2000 – 2500 trees/ha.) using native plant species should be developed in consultation with the local DFO. Final treated liquid effluent should be used for developing the greenery.	This condition has been revalidated and mentioned in EC Condition no: 71 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 As per the latest CCA, the final treated effluent is to be discharged into deep sea through GIDC above ground pipeline and is being practised
X	Suitable alarm system and standard procedure for transmitting the information on accidental release of chlorine to the nearby areas and proper focal point should be established. Step should also be taken to ensure access to information on weather condition prevailing at that time and weather forecast. Wind socks at appropriate locations should be provided. Necessary approval may be taken from the explosive department / chief inspector of factories regarding the safety of the pressure vessels, storage tanks etc.	This condition has been revalidated and mentioned in EC Condition no: 47 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
xi	Hazardous wastes should be handled as per the hazardous waste (Management & Handling) Rules, 1989 of the EPA, 1986.	This condition has been revalidated and mentioned in EC Condition no: 33 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015
xii	Handling, manufacture, storage and transportation of hazardous chemicals should be carried out in accordance with manufacture, storage and import of hazardous chemicals rules, 1989 as amended in October, 1994.	Complied
xiii	The project authorities must set up laboratory facilities for collection and analysis of samples under supervision of competent technical personnel who will directly report to the Chief Executive.	This condition has been revalidated and mentioned in EC Condition no: 78 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 The unit has established a full fledged laboratory. The lab incharge reports to the EHS head on environmental analysis matters.
xiv	A separate Environment Management Cell with suitably qualified persons to carry out various functions should.	Separate environment cell has been formed, Monitoring is being done by 3rd party recognized laboratories. Separate budget has been earmarked for Environment management and also there is no constraint of funds for any such developmental activity.
xv	The funds earmarked for the environmental protection measures should not be diverted for any other purposes and year wise expenditures should be reported to this ministry.	We carry out regular CSR activities involving local villages and administration for improvement of socio economic condition of the surround area. This condition has been revalidated and mentioned in EC Condition no: 79 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015

		Adequate funds (both recurring as well as non-recurring) are provided by the Unit for implementation of conditions stipulated by MoEFCC as well as SEIAA (State Govt.). These are not diverted for any other purpose. The jobs have been completed long back and further upgradations done as per the latest requirements
xvi	Six monthly reports on the compliances status of project implementation vis – a vis above environmental measures should be submitted to regional office of the ministry.	This condition has been revalidated and mentioned in EC Condition no: 87 of the latest EC no. SEIAA/GUJ/EC/4(d) & 1(d) /3076/2015 dated 21st August 2015 Complied Last report for the period October-17 to March-18 was submitted, vide our letter no. SAC-SHE-E-FL-08/18-19/01 dated 28th May,2018

Annexure: 15 Certificate of Plantation issued by GIDC:

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

(A GOVT. OF GUJARAT UNDERTAKING)

Dy.Ex. Engineer, Office of the Dy.Ex.Engineer,

Plot no.40 Road No.8, near Pepsico.Co GIDC Jhagadia-393 110

NO. GIDC/DEE/ JHG/336 Date: - 19/10/2018

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that, M/S DCM Shriram ltd unit: Shriram Alkali & Chemicals, Plot No. 749 @ GIDC Jhagadia Industrial Estate, planted 3500 Nos of different types of trees like Kadam,Saptparni, Bahumia, Peltofam Gulamahor etc... in the land of corridor an area of 65000.00 sq.mt behind Sikka India Ltd Plot No.916 and propose to plant further 6500 no of trees to reach the target of 10000 (Ten thousand) trees. It is appreciated.

19/10

Dy. Executive Engineer
GIDC, Jhagadia

Copy to :-
M/S DCM Shriram Ltd unit: Shriram Alkali & Chemicals,
Plot No. 749, GIDC, Jhagadia

DCM Shriram Limited • Shriram Alkali & Chemicals • Unit: Jhagadia, Dist. Bharuch.

Annexure# 14: Form-32 for Occupational Health of employees:

1. Sr. No. in the Register of adult Workers : 50624
2. Name of Worker : Sahdev [illegible]
3. Sex : male
4. Date of Birth : 4-5-86

FROM NO. : 32

(Prescribe under Rule 68 T and 102)

HEALTH REGISTER

Department / Works	Name of hazardous processes	Dangerous process operation	Nature of Job or occupation	Raw materials products or by product likely to be exposed to	Date of posting	Date of leaving transfer-to or transfer	Reasons for discharge leaving or transfer
1	2	3	4	5	6	7	8
[illegible]	Chemical industry	[illegible]	[illegible]	[illegible]	14-6-2016	–	–

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Medical examination and the results there of				If declared unfit for work				
Date	Signs and symptoms observed during examination	Nature of tests & results there of	Result Fit/unfit	Period of temporary withdrawal from that work	Reason for such withdrawal	Date of declaring him unfit for certificate	Date of issuing fitness certificate	Signature of with date of the Factory Medical Officer the Certifying Surgeon
9	10	11	12	13	14	15	16	17
21-1-2017	[illegible]	Clinical, audio, spiro, pathology, normal	Fit	–	–	–	–	MEDICAL OFFICER O. H. CENTRE [illegible] CHEMICALS GIDC [illegible] BHARUCH

Annexure# 13: Sample of medical check up of employee:

DCM SHRIRAM

Shriram Alkali & Chemicals : Jhagadia - QEOHS Management System

SHRIRAM ALKALI & CHEMICALS, JHAGADIA
PRE-EMPLOYMENT MEDICAL EXAMINATION REPORT (FORM - 33)

Sr. No. :

Date : 17/10/18

Full Name : SAMIR YASHWANT RAY PANDYA

Father's Name : YASHWANT RAY

Date of Birth : 24/12/1979 Age : 39 Blood Group : O +ve

DOJ : _____ Department : Purchase Designation : DGM

PHYSICAL EXAMINATION :

Height : 178 Cm Weight : 74 Kg

Chest : Normal : 92 Cm Abdominal Girth : 92 Cm

Expanded : 96 Cm

Physical Norm & Development (Below normal/Average / Obeses / Any Deformity) : _____

EYE : Distant Vision : RE 6/6 LE 6/6

Near Vision : RE N6 LE N6

Colour Vision : ACC

Any evidence of trachoma or any other disease of eye : NAD

CVS : Heart NAD

Pulse _____ B.P. 110/80 m.m of Hg.

Respiratory System : NAD

CNS : NAD

Abdomen (Liver, spleen, hernia, muscle tone etc.) NAD

Genitourinary system (Hydrocele, hernia, piles etc.) NAD

EAR : Hearing : R ✓ L ✓ (N)

Any evidence of ear diseases : NAD

SKIN : NAD

Any other abnormalities detected : NAD

Marks of identification : Black mole (L) cheek

Medical Fitness Status : FIT/UNFIT Remarks : _____

SIGNATURE OF EXAMINEE

MEDICAL OFFICER
MEDICAL OFFICER
O. H. CENTRE
SHRIRAM ALKALI & CHEMICALS
GIDC, JHAGADIA, BHARUCH

SAC-OHC-F-05 (1.1)

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

➢ Occupier to conduct mock drill of the on-site emergency plan every six months and submit the report to the concerned authority	Being complied with
➢ Occupier to provide information to the outside persons or through district emergency authority about the nature of major accident hazardous and do's and don'ts	Complied with
FOLLOWING SHALL APPLY TO: (A) INDUSTRIAL ACTIVITY IN WHICH INVOLVED A QUANTITY OF HAZARDOUS CHEMICAL IS EQUAL TO OR MORE THAN COLUMN 4 OF SCHEDULE 3; (B) ISOLATED STORAGE IN WHICH INVOLVED A QUANTITY OF HAZARDOUS CHEMICAL IS EQUAL TO OR MORE THAN COLUMN 4 OF SCHEDULE 2	Complied with
➢ Occupier to submit safety report (Schedule 8) to the concerned authority at least 90 days before commencing that activity.	Complied with
➢ Occupier to submit safety audit report to the concerned authority carried out with the help of an expert not associated with such industrial activities	being complied with
➢ Occupier to update the safety audit report once a year by conducting a fresh safety audit and forward report to the safety audit.	Being complied with

➢ Before assigning the job ➢ After he has case to work in such job, at intervals not exceeding 12 months in the prescribed manner. (Application: Factory involving hazardous processes)	Complied
➢ Set up safety committee consisting of equal number of representatives of workers and management in a factory where a hazardous process takes place or where hazardous substances are used or handled. ➢ Maintain register of adult workers and display period of work.	Complied
➢ Not to allow any child who has not completed 14 years of age to work in any factory.	Being complied with Being complied with
➢ Maintain register of child workers (completed 14th year of age or an adolescent)	Being complied with
➢ Notify prescribed authority about the occurrence of an accident, which causes death or any bodily injury by reason of which the person is prevented from working for a period 48 hours or more. ➢ Notify prescribed authorities dangerous occurrences is Prescribed.	Being complied with Being complied with
➢ Notify prescribed authorities in case a worker contracts any disease specified in Schedule 3	Being complied with

DCM Shriram Limited • Unit: Shriram Akhai & Chemicals • Dist. Bharuch • Jhagadia

Status of various procedural requirements under Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 / Amendment Rule, 2000

PROCEDURAL REQUIREMENTS	STATUS
➢ FOLLOWING SHALL APPLY TO INDUSTRIAL ACTIVITY IN WHICH A HAZARDOUS CHEMICAL SATISFIES ANY OF THE CRITERIA LISTED IN PART 1 OF THE SCHEDULE 1 OR LISTED IN PART 11 OF SCHEDULE 1:	
➢ Occupier to identify major accident hazards and take adequate steps for prevention and control and provide to the persons working on the site information, training, equipment including antidotes.	
➢ Occupier to arrange or develop information on safety data sheets (Schedule 9)	
➢ Label every container of hazardous chemicals of its content name and address of the manufacture / importer and physical, chemical and toxicological.	
➢ Occupier to follow specified procedure for import of hazardous chemicals, in case involved in the import.	Being complied with
➢ Notify major accident within 48 hours to the concerned authority (Schedule 5) in the prescribed form (Schedule 6)	
FOLLOWING SHALL APPLY TO: (A) INDUSTRIAL ACTIVITY IN WHICH INVOLVED A QUANTITY OF HAZARDOUS CHEMICAL IS EQUAL TO OR MORE THAN COLUMN 3 OF SCHEDULE 3: (B) ISOLATED STORAGE IN WHICH INVOLVED A QUANTITY OF HAZARDOUS CHEMICAL IS EQUAL TO OR MORE THAN COLUMN 3 OF SCHEDULE 2	Complied with
➢ Submit notification of site to the concerned authority (Schedule 5) and obtain the approval at least three months before commencing that activity	Complied with
➢ Update notification of site in case of increase or decrease in the maximum threshold quantity of a hazardous chemical, to which rule applies	N.A
➢ Occupier to prepare and keep up-to-date on-site emergency plan (Form 11). (Concerned authority to prepare and keep up-to-date an adequate on-site emergency plan. Occupier to provide the information for this purpose).	

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

local authority and also inform the change made in the policy. ➢ Draw an on-site emergency plan and detailed disaster-control measures and obtain approval of the chief inspector and make known to the workers and general public in the vicinity. ➢ Every occupier having factory involving hazardous process to inform the chief inspector of the nature and details of the process in the prescribed Form within a period of 30 days before the commencement of such process. ➢ Lay down measures for the handling, usage, transportation and storage of hazardous substances inside the factory premises with the previous approval of the chief inspector. ➢ Maintain accurate and up-to date health / medical records of the workers in the factory which are exposed to any chemical, toxic or any other harmful substance. (Application: Factory involving hazardous processes) ➢ Appoint persons who possess qualifications and experience in handling any hazardous substances and are competent to supervise such handling. *(Application: Factory involving hazardous process)* ➢ To provide at the working place all necessary facilities for protecting the workers. (Application: Factory involving hazardous process) ➢ To provide for medical examination of the worker:	Being complied with Being complied with Being complied with Being complied with Complied Being complied with Being complied with Being complied with

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Jhagadia, Dist. Bharuch

Annexure#12

Various procedural requirements under Factory Act, 1948

& Gujarat Factory Rule, 1963/1995(AM)

PROCEDURAL REQUIREMENTS	STATUS
➢ Submit plans / description of factories to the chief inspector of factories to the chief inspector of factories or state Government.	Complied
➢ Obtain permission for the site from the State Government or the Chief Inspector of the factories in case of new or extension or any factory.	Being complied with
➢ Obtain registration and licensing of factories by submitting application and along with the prescribed fee.	Complied
➢ Obtain renewal of licenses	Complied
➢ Send a return notice to the chief inspector of factories at least 15 days before he begins to occupy or use any premises as a factory containing specified particulars.	(Valid up to 31st Dec'21)
➢ To ensure reasonably practicable health, safety and welfare of all workers while they are at work in the factory.	Being complied with
➢ Maintain maintenance register for hoists and lifts.	Being complied with
➢ Nominate safety officer(s) in case of 1000 or more workers or if notified by the State Government.	Complied
➢ Compulsory disclosure of information by the occupier of every factory involving a hazardous process in the prescribed manner including measures to overcome such hazardous to the chief inspector, local authority and also inform the change made in the vicinity.	Complied
➢ Lay down a detailed health and safety policy at the time of registration for the factory involving hazardous process and intimate such policy to chief inspector and	Being complied with

DCM Shriram Limited • Unit: Shriram Akhai & Chemicals • Dist. Bharuch • Jhagadia

Annexure#11 Manifest copy for Dispatch of Used Oil:

IND:M/S R K Steel, Plot No. 21, GIDC, Bharuch
(Hazardous Waste Manifest)

Manifest No: 835513
15/02/2019

Copy 2

To be Carried by the occupier after taking signature on it form the transporter.

1	Occupier's Name & Mailing Address: Registration No: AWH-81231	15672 - DCM SHRIRAM LTD (UNIT: Shriram Alkali & Chemicals) PLOT NO:749,,, ,Jhagadia - 393110 DIST : Ankleshwar, TAL : Jhagadia , GIDC : Jhagadia
2	Transporter's Name & Address :	Shivshakti Transport, GHOGHH ROAD,BHA Ph: 8401091214
3	Transporter's Registration No :	APPLIED
4	Vehicle No & Type :	GJ2V4097 - TANKER
5	Designated Facility Name & Site Add:	IND:M/S R K Steel, Plot No. 21, GIDC, Bharuch
6	Facility's Reg No with PCB :	AWH-81231
7	Waste Type :	Recylable Waste
8	Waste Description & Codes :	5.1
9	Total Quantity :	8.570 Metric Tonne Containers: 1
10	Consistency :	Liquid
11	Waste Description :	Used oil dispatched through Tanker no. GJ 2V 4097 on dated 15.02.19
12	Occupier's Certificate :	I hereby declare that the contents of the consignment are fully and accurately decribed above by proper shipping name and are categorised, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations. Name & Stamp of Industry Date: 15/02/2019 Signature
13	Transporter Acknowledgement of Receipt of Wastes	Stamp of: Shivshakti Transport Date : 15/02/2019 0:00 Signature
14	Discrepancy Note Space	
15	Facility Owner or Operator's Certification of Receipt of Hazardous Waste	Stamp of: IND:M/S R K Steel, Plot No. 21, GIDC, Bharuch Date : 16-2-2019 Signature

Sr	Quantity	Hazardous Waste Type
1	8.570	5.1 - Used or Spent Oil

15/02/2019 1 (Through XGN) N I C

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch.

Annexure#10 Copy of CCA letter no.: GPCB/ANK/CCA-305(12)/ID-15672

GPCB

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, **Gandhinagar** 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

By R.P.A.D.

CONSOLIDATED CONSENT AND AUTHORIZATION (CC & A – Amendment)
CCA AMENDMENT NO: AWH - 99209
NO: GPCB/ANK/CCA-305(12)/ID-15672/ **DT: 15/03/2019**

To,
M/S. DCM SHRIRAM LTD.,
PLOT NO:749,
GIDC ESTATE JHAGADIA,
DIST-BHARUCH.

SUB: Amendment in Consolidated Consent & Authorization (CC&A) under various Environmental Acts/ Rules.
REF: (1) Your application No. 147900 dated **11/12/2018.**
(2) CCA No. W - 88011 dated :07/09/2017.

Sir,

This has reference to the CCA order No: W-88011, issued vide letter no. GPCB/ ANK/ CCA-305(10)/ID-15672/422338, dated 07/09/2017 under the provisions of the various Environmental Act/ Rules, which stands amended as under. The Validity of this order will be up to **03/07/2021.**

1. **The list of proposed products to be manufactured shall be as follows:**

Sr. No.	Products	Quantity (MT/Year)		
		Existing	Proposed	Total (After Expansion)
1	Caustic Soda (Lye/flakes)	342000	---	342000
2	Chlorine	297800	---	297800
3	Hydrochloric acid (100% basis) on 33% (as produced)	80000 242424	---	80000 242424
4	Hydrogen	9116	---	9116
5	Sodium Hypochlorite	16400	1825	18225
6	Dil. Sulphuric Acid (70-78%)	7550	---	7550
7	Aluminium Chloride	---	16425	16425

2. **Specific conditions**
   a. There shall be no change in water consumption, wastewater generation and their mode of disposal.

3. **CONDITIONS UNDER THE AIR ACT:**

3.1. There shall be no change in fuel consumption & flue gas emission from proposed expansion.

3.2 The condition No. 4.3 for Process gas stacks under Air Act of the CCA order No: W-88011, issued vide letter no. GPCB/ ANK/ CCA-305(10)/ID-15672/422338, dated 07/09/2017 is amended and shall now be read as under.

Shriram Limited Bharuch Alkali & Chemicals

Stack No.	Stack attached to	Stack Height in Meter	Air Pollution Control Measure (APCM)	Parameter	Permissible limit
	Existing				
1	Chlorine Absorption Unit –Hypo plant-1	30	Caustic Scrubber	CL2	9 mg/NM3
2	HCL Unit-1	30	Water/Caustic Scrubber	HCL CL2	20 mg/NM3 9 mg/NM3
3	HCL Unit-2	30	Water/Caustic Scrubber		
4	Chlorine Absorption Unit –Hypo plant-2	30	Caustic Scrubber	CL2	9 mg/NM3
5	HCL Scrubber of HCL plant-3	30	Water/Caustic Scrubber	HCL CL2	20 mg/NM3 9 mg/NM3
	Proposed				
1	Aluminium Chloride Plant-Hypo System-3	30	Caustic Scrubber	CL2	9 mg/NM3
2	Hydrochloric acid scrubber HCL plant-4	30	Water Scrubber	HCL CL2	20 mg/NM3 9 mg/NM3

3.3 The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder.

Sr. No.	Parameters	Permissible Limit (microgram /M³)	
		Annual	24 Hours Average
1.	Particulate Matter (PM_{10})	60	100
2.	Particulate Matter ($PM_{2.5}$)	40	60
3.	Oxides of Sulphur (SO_x)	50	80
4.	Oxides of Nitrogen (NO_x)	40	80

- **Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.**
- **24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.**

3.4 Unit shall operate industrial plant / air pollution control equipment very efficiently and continuously so that the gaseous emission always conforms to the standards specified in condition as above.

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

4 **CONDITIONS UNDER HAZARDOUS & OTHER WASTES (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES, 2016**

4.1 Unit shall comply with provisions of Hazardous & Other Wastes (Management & Transboundary Movement) Rules-2016.

4.2 The condition No. 6.2 under authorization for Hazardous & other wastes of the CCA order No: W-88011, issued vide letter no. GPCB/ ANK/ CCA-305(10)/ID-15672/422338, dated 07/09/2017 is amended and shall now be read as under.

A. **Reception of Hazardous & other wastes by unit:**

Sr. No.	Name of Waste	Category Number	Quantity/Year			Facility
			Exi.	Pro.	Total	
1	Discarded barrels/ containers of various chemical Bags	33.1	4400 nos. 132600 nos.	--- 50000 nos.	4400 nos. 182600 nos.	Collection, Storage, reuse, decontamination, transportation & return back to supplier and remaining disposal by sale to GPCB approved vendor/trader.
2	ETP Sludge (MTPA)	35.3	3	---	3	Collection, Storage, transportation and final disposal at own SLF within the premises.
3	Used Oil (MTPA)	5.1	200 MT	---	200 MT	Collection, Storage, transportation and final disposal by sale to registered re-processors approved by MoEFCC.
4	Wastes or Residues containing Oil	5.2	---	5 MT	5 MT	Collection, Storage, transportation and final disposal by sale to registered re-processors approved by MoEFCC.
	Other solid waste					
1	Brine Sludge (MTPA)	---	23000	---	23000	Collection, Storage, transportation and final disposal at own SLF within factory premises or CTSDF.
2	Glass wool/Insulation waste	---	---	20	20	Collection, Storage, transportation and final disposal at CTSDF.

3	FRP/PVC pipe wastes (Non-Recyclable)	---	---	20	20	Collection, Storage, transportation and final disposal at CTSDF.

5 All other conditions of the CCA order No: W-88011, issued vide letter no. GPCB/ ANK/ CCA-305(10)/ID-15672/422338, dated 07/09/2017 will remain same.

For and on behalf of
GUJARAT POLLUTION CONTROL BOARD

(A.V.SHAH)
SR. ENVIRONMENT ENGINEER

Annexure#9 Copy of Form-37 as per the Gujarat Factory Rules:

FORM NO. 37
(Prescribed under Rule 12-B)

Register Containing particulars of monitoring of working environment required under Section 7-A(2)(e)

*1. Name of the Department/Plant.
2. Raw materials, by products and finished products involved in the process.
3. Particulars of sampling

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Sr. No.	Location operation monitored	Identified contaminant	Sampling instrument used	Airborne Contamination: Number of samples	Airborne Contamination: Range	Airborne Contamination: Average	TWA concentration (As given in Second Schedule)	Reference method	Number of workers exposed at the location being monitored	Remarks	Signature of person taking samples	Name (in block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Cell house	Chlorine	Cl_2 Sensor	Continuous	0-10 ppm	0.11 ppm	0.5 PPm	-	4	12-09-18	[signature]	D.A. Patel
2	New Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 ppm	0.13 ppm	0.5 PPm	-	4	12-09-18	[signature]	D.A. Patel
3	Old Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.13 ppm	0.5 PPm	-	4	12-09-18	[signature]	D.A. Patel
4	Cl_2 storage tank area	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.12 ppm	0.5 PPm	-	2	12-09-18	[signature]	D.A. Patel
5	H_2 Comp. area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	12-09-18	[signature]	D.A. Patel
6	H_2 cylinder Bank area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	12-09-18	[signature]	D.A. Patel
1	Cell House	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	2	11.10.18	[signature]	R.R. Pawar
2	New Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	4	11.10.18	[signature]	R.R. Pawar
3	Old Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	5	11.10.18	[signature]	R.R. Pawar
4	Cl_2 storage tank area	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	2	11.10.18	[signature]	R.R. Pawar
5	H_2 Comp area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	11.10.18	[signature]	R.R. Pawar
6	H_2 cylinder bank area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	11.10.18	[signature]	R.R. Pawar
1	Cell House	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	2	12.11.18	[signature]	R.R. Pawar
2	New Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	4	12.11.18	[signature]	R.R. Pawar
3	Old Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	0.5 PPm	-	6	12.11.18	[signature]	R.R. Pawar
4	Cl_2 storage tank area	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0.1 PPm	1.5 PPm	-	2	12.11.18	[signature]	R.R. Pawar
5	H_2 Comp area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	12.11.18	[signature]	R.R. Pawar
6	H_2 cylinder bank area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	12.11.18	[signature]	
1	Cell house	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0-1 PPm	0.5 PPm	-	2	9-12-18	[signature]	R.R. Pawar
2	New Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0-1 PPm	0.5 PPm	-	4	9-12-18	[signature]	R.R. Pawar
3	Old Cl_2 bottling shed	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0-1 PPm	0.5 PPm	-	4	9-12-18	[signature]	R.R. Pawar
4	Cl_2 storage tank area	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	0-1 PPm	0.5 PPm	-	1	9-12-18	[signature]	R.R. Pawar
5	H_2 Comp area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	9-12-18	[signature]	R.R. Pawar
6	H_2 cylinder bank area	Hydrogen	H_2 Sensor	Continuous	0-100 %	0 %	-	-	1	9-12-18	[signature]	R.R. Pawar
1	[illegible] Plant	Chlorine	Cl_2 Sensor	Continuous	0-10 PPm	[illegible]	0.5 PPm	-	[illegible]	[illegible]	[signature]	[illegible]

Annexure#8

Analysis report of AAQ for the month of Oct-18 to March-19

SAN ENVIROTECH PVT. LTD.

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MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181001

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181001**
Description of Location	:	**Nr. Salt Handling Area**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550.**	Test Parameter	:	**As per Result Table.**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	61	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	39	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	23.9	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	26.7	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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Jhagadia Dist. Bharuch DCM Shriram Alkali & Chemicals Limited Unit

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190308

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190308**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant-2)**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**	Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181003

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181003**
Description of Location	:	**Nr. TSDF**	Test Method		**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	50	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	39	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	27.7	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	30.3	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**
b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181002

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181002**
Description of Location	:	**Nr. Main Gate**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	58	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	41	IS 5182 (PART 23, 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	33.4	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	36.1	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**
b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181101

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181101**
Description of Location	:	**Nr. Salt Handling Area**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550.**	Test Parameter	:	**As per Result Table.**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	57	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	35	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	26.6	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	29.9	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**
b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181102

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Gaseous Sample of Ambient Air	Duration of Sampling(Hrs)	:	24:00 Hrs.
Date of Sampling	:	16/11/2018	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20181102
Description of Location	:	Nr. Main Gate	Test Method	:	As per Result Table
Instrument Used	:	Fine Particulate Sampler APM 550	Test Parameter	:	As per Result Table

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	53	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	35	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	28.2	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	31.4	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181103

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181103**
Description of Location	:	**Nr. TSDF**	Test Method		**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	45	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	32	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	29.5	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	31.2	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181201

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181201**
Description of Location	:	**Nr. Salt Handling Area**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550.**	Test Parameter	:	**As per Result Table.**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	51	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	38	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	29.5	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	32.8	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Alkali & Chemicals Unit Jhagadia, Dist. Bharuch

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181202

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181202**
Description of Location	:	**Nr. Main Gate**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	57	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	39	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	31.6	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	34.9	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory

b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181203

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181203**
Description of Location	:	**Nr. TSDF**	Test Method		**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	52	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	35	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	32.2	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	34.6	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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Unit: Shriram Alkali & Chemicals Limited Jhagadia Dist. Bharuch

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GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190101

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**18/01/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected by	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20191101**
Description of Location	:	**Nr. Salt Handling Area**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550.**	Test Parameter	:	**As per Result Table.**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	50	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	37	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	25.6	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	28.7	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190102

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**18/01/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20191102**
Description of Location	:	**Nr. Main Gate**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	51	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	36	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	29.5	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	32.2	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190103

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Gaseous Sample of Ambient Air	Duration of Sampling(Hrs)	:	24:00 Hrs.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191103
Description of Location	:	Nr. TSDF	Test Method		As per Result Table
Instrument Used	:	Fine Particulate Sampler APM 550	Test Parameter	:	As per Result Table

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	53	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	33	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	26.4	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	28.1	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190201

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Gaseous Sample of Ambient Air	Duration of Sampling(Hrs)	:	24:00 Hrs.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190201
Description of Location	:	Nr. Salt Handling Area	Test Method	:	As per Result Table
Instrument Used	:	Fine Particulate Sampler APM 550.	Test Parameter	:	As per Result Table.

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	48	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	39	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	30.9	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	33.6	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) Analyzed By: (Palak Patel)

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190202

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Gaseous Sample of Ambient Air	Duration of Sampling(Hrs)	:	24:00 Hrs.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190202
Description of Location	:	Nr. Main Gate	Test Method	:	As per Result Table
Instrument Used	:	Fine Particulate Sampler APM 550	Test Parameter	:	As per Result Table

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	55	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	38	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	30.8	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	33.7	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190203

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Gaseous Sample of Ambient Air	Duration of Sampling(Hrs)	:	24:00 Hrs.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190203
Description of Location	:	Nr. ISDF	Test Method		As per Result Table
Instrument Used	:	Fine Particulate Sampler APM 550	Test Parameter	:	As per Result Table

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	48	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	37	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	29.6	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	31.4	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190301

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190301**
Description of Location	:	**Nr. Salt Handling Area**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	51	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	36	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	29.5	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	32.9	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

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M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Alkali & Chemicals Unit Limited Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190302

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190302**
Description of Location	:	**Nr. Main Gate**	Test Method	:	**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	52	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	33	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	34.5	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x)	$\mu g/m^3$	80	37.1	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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GPCB Recognized Schedule-II Auditors
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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190303

ANALYSIS REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Gaseous Sample of Ambient Air**	Duration of Sampling(Hrs)	:	**24:00 Hrs.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190303**
Description of Location	:	**Nr. TSDF**	Test Method		**As per Result Table**
Instrument Used	:	**Fine Particulate Sampler APM 550**	Test Parameter	:	**As per Result Table**

Result Table

SR. No.	PARAMETER	UNIT	GPCB LIMIT	RESULTS	TEST METHOD
1.	Particulate Matter (PM_{10})	$\mu g/m^3$	100	50	IS 5182 (PART 23) 2006
2.	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	60	38	IS 5182 (PART 23) 2006
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	80	27.9	IS 5182 (PART 2) 2001
4.	Oxides of Nitrogen (NO_x))	$\mu g/m^3$	80	29.1	IS 5182 (PART VI) 2006
5.	HCl	$\mu g/m^3$	200	ND	Titrimetric
6.	Cl_2	$\mu g/m^3$	100	ND	IS 5182 : Part XIX: 1982

ND: Not Detected

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Limited • Alkali & Chemicals • Unit-Shri Ram • GIDC, Dist. Bharuch, Jhagadia

Annexure#7: Analysis report of process vent for the Month of Oct-18 to Mar-19 done by M/S. SAN Envirotech Pvt. Ltd., Ahmedabad

SAN ENVIROTECH PVT. LTD.

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181004

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	: Emission from Stationary Sources. (Stack/Vent)		Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	: 16/10/2018		Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	: SEPL Team		Lab ID Code	:	SEPL/SAC-20181004
Description of Source	: Stack attached to HCl plant – II		Test Parameters	:	As per result table
Instrument Used	: Stack sampler VSS1 (Sr. No.75 DTJ 04)		Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm³	1.22	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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DCM Shriram Alkali & Chemicals Unit Shriram Limited Jhagadia, Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181005

ANALYSIS REPORT OF STACK MONITORING

Name of Client		**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**			
Address		749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110			
Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181005**
Description of Source	:	**Stack attached to HCl plant – III**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	36

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.12	Titrimetric
2.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

Phone No. 079-26583077 Cell: 9825007201/9723766007 Email: shobha.sepl@gmail.com
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SAN ENVIROTECH PVT. LTD.
Accredited QCI-NABET Consultant
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GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181006

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	16/10/2018	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20181006
Description of Source	:	Stack attached to HCl plant - IV	Test Parameters	:	As per result table
Test Method	:	As per result table			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm³	1.26	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) Analyzed By: (Palak Patel)

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181007

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of Sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	16/10/2018	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20181007
Description of Source	:	Stack attached to Chlorine Absorption Unit (Hypo Plant)	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

DCM Shriram Alkali & Chemicals Unit: Shriram Limited Dist. Bharuch

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181008

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181008**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant-2)**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**	Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181104

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181104**
Description of Source	:	**Stack attached to HCl plant – II**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.29	Titrimetric
2.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD

Unit: Shriram Alkali & Chemicals, Dist. Bharuch, DCM Shriram Limited

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MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181105

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181105**
Description of Source	:	**Stack attached to HCl plant – III**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.18	Titrimetric
2.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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DCM Shriram Alkali & Chemicals Unit Jhagadia Dist. Bharuch Limited

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181107

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181107**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181108

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	: Emission from Stationary Sources. (Stack/Vent)		Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	: 16/11/2018		Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	: SEPL Team		Lab ID Code	:	SEPL/SAC-20181108
Description of Source	: Stack attached to Chlorine Absorption Unit (Hypo Plant-2)		Test Parameters	:	As per result table
Test Method	: As per result table		Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By:- (Palak Patel)

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia Dist. Bharuch

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181204

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources, (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	17/12/2018	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20181204
Description of Source	:	Stack attached to HCl plant - II	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm³	1.32	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory.
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181205

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181205**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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DCM Shriram Alkali Chemicals Unit Jhagadia Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC 20190104

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)		
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110		
Description of sample	: Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	: 30 Min.
Date of Sampling	: 18/01/2019	Packing/Seal	: Sealed with Proper Identification
Sample Collected By	: SEPL Team	Lab ID Code	: SEPL/SAC-20190404
Description of Source	: Stack attached to HCl plant - I	Test Parameters	: As per result table
Instrument Used	: Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	: As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.11	Titrimetric
2.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) Analyzed By: (Miss Pooja Thaker)

AHMEDABAD

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DCM Shriram Limited Chemicals Unit Bharuch Manager

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190105

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191104
Description of Source	:	Stack attached to HCl plant - II	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm³	1.27	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

Analyzed By: (Palak Patel)

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190106

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of Sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191105
Description of Source	:	Stack attached to HCl plant – III	Test Parameters	:	As per result table
Test Method	:	As per result table			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm³	1.24	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria)

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Analyzed By: (Palak Patel)

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DCM Shriram Alkali & Chemicals Limited • Jhagadia Dist. Bharuch •

SAN ENVIROTECH PVT. LTD.

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GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190107

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/01/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20191107**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**

b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS | CONSULTANTS

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190108

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191108
Description of Source	:	Stack attached to Chlorine Absorption Unit (Hypo Plant-2)	Test Parameters	:	As per result table
Test Method	:	As per result table	Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) Analyzed By: (Palak Patel)

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Shriram Alkali & Chemicals Unit Limited • DCM • Dist. Bharuch

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190205

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources, (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190204
Description of Source	:	Stack attached to HCl plant – II	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No./5 D1 / 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RLS/VLIS	TEST METHOD
1.	HCl	mg/Nm³	1.35	Titrimetric
2.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) Analyzed By: (Palak Patel)

DCM Shriram Alkali & Chemicals Unit, Shriram Limited, Jhagadia, Dist. Bharuch

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190208

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190208
Description of Source	:	Stack attached to Chlorine Absorption Unit (Hypo Plant-2)	Test Parameters	:	As per result table
Test Method	:	As per result table	Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm³	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) Analyzed By: (Palak Patel)

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190305

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190305**
Description of Source	:	**Stack attached to HCl plant – III**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.19	Titrimetric
2.	Cl_2	mg/Nm^2	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190306

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/03/2019**	Pecking/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190306**
Description of Source	:	**Stack attached to HCl plant – IV**	Test Parameters	:	**As per result table**
Test Method	:	**As per result table**			

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	HCl	mg/Nm^3	1.30	Titrimetric
2.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Industries Limited • Unit: Shriram Alkali & Chemicals • Dist. Bharuch • Jhagadia

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190307

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190307**
Description of Source	:	**Stack attached to Chlorine Absorption Unit (Hypo Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	30

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	Cl_2	mg/Nm^3	ND	IS 5182 : Part XIX: 1982

ND = Not Detected

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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Shriram Alkali & Chemicals Unit Jhagadia, Dist. Bharuch

Annexure#6 : Analysis report of Flue gas stack for the Month of Oct-18 to Mar-19 done by M/S SAN Envirotech PVT. Ltd., Ahmedabad:

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181009

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181009**
Description of Source	:	**Stack attached to P.F. Boiler (Coal)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	85
2.	Temperature of flue gas	°C	149
3.	Velocity of flue gas	m/sec	8.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	6.2	IS:11255:(P-1):1985
2.	NO_x	PPM	2.5	IS:11255(Part-7):2005
3.	SO_2	PPM	4.1	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181010

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	16/10/2018	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20181010
Description of Source	:	Stack attached to CFBC Boiler (Coal)– 2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	115
2.	Temperature of flue gas	°C	146
3.	Velocity of flue gas	m/sec	7.8

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	11	IS:11255 (P-1):1985
2.	NO_x	PPM	5.0	IS:11255(Part-7):2005
3.	SO_2	PPM	7.2	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

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D.C.M. Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181011

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181011**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)-2**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	249
3.	Velocity of flue gas	m/sec	9.4

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	13	IS:11255:(P-1):1985
2.	SO_2	PPM	6.1	IS:11255:(P-2):1985
3.	NO_x	PPM	8.3	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

AHMEDABAD

DCM Shriram Alkali & Chemicals Limited, Unit: Shriram, Jhagadia, Dist. Bharuch

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ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181012

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/10/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20180512**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	250
3.	Velocity of flue gas	m/sec	7.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	9	IS:11255:(P-1):1985
2.	SO_2	PPM	4.7	IS:11255:(P-2):1985
3.	NO_x	PPM	6.1	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

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ENVIRONMENTAL AUDITORS & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181109

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181109**
Description of Source	:	**Stack attached to P.F. Boiler (Coal)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	85
2.	Temperature of flue gas	°C	151
3.	Velocity of flue gas	m/sec	9.1

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	8.8	IS:11255:(P-1):1985
2.	NO_x	PPM	16.2	IS:11255(Part-7):2005
3.	SO_2	PPM	45	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

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Shriram Alkali & Chemicals Unit: Jhagadia, Dist: Bharuch Limited

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181110

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181110**
Description of Source	:	**Stack attached to CFBC Boiler (Coal)– 2**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	115
2.	Temperature of flue gas	°C	145
3.	Velocity of flue gas	m/sec	8.2

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	9	IS:11255 (P-1):1985
2.	NO_x	PPM	18.8	IS:11255(Part-7):2005
3.	SO_2	PPM	57	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

AHMEDABAD

DCM Shriram Alkali & Chemicals Limited, Dist. Bharuch

SAN ENVIROTECH PVT. LTD.
Accredited QCI-NABET Consultant
MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181111

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181111**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)-2**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	248
3.	Velocity of flue gas	m/sec	8.7

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	10	IS:11255:(P-1):1985
2.	SO_2	PPM	9.1	IS:11255:(P-2):1985
3.	NO_x	PPM	12.4	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

SAN ENVIROTECH PVT. LTD. AHMEDABAD

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DCM Shriram Limited * Unit: Shriram Alkali & Chemicals * Dist. Bharuch * Jhagadia

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GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181112

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**16/11/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20180512**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	252
3.	Velocity of flue gas	m/sec	9.2

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	7	IS:11255:(P-1):1985
2.	SO_2	PPM	6.6	IS:11255:(P-2):1985
3.	NO_x	PPM	8.9	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181207

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181207**
Description of Source	:	**Stack attached to P.F. Boiler (Coal)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	85
2.	Temperature of flue gas	°C	155
3.	Velocity of flue gas	m/sec	10.6

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	11	IS:11255:(P-1):1985
2.	NO_x	PPM	24.4	IS:11255(Part-7):2005
3.	SO_2	PPM	41	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD

DCM Shriram Alkali & Chemicals Limited, Unit: Shriram, Jhagadia, Dist. Bharuch.

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MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181209

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20181209**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	259
3.	Velocity of flue gas	m/sec	9.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	10	IS:11255:(P-1):1985
2.	SO_2	PPM	8.2	IS:11255:(P-2):1985
3.	NO_x	PPM	9.7	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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Shriram Alkali & Chemicals Unit of DCM Shriram Limited Jhagadia Dist. Bharuch

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181210

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**17/12/2018**	Packing/Seal	:	**Sealed with Proper Identification.**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**FEPL/SAC-20181210**
Description of Source	:	**Stack attached to Auxiliary Boiler**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	58
2.	Temperature of flue gas	°C	255
3.	Velocity of flue gas	m/sec	11.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	28	IS:11255:(P-1):1985
2.	SO_2	PPM	37	IS:11255:(P-2):1985
3.	NO_x	PPM	25	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190109

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191109
Description of Source	:	Stack attached to P.F. Boiler (Coal)	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	85
2.	Temperature of flue gas	°C	152
3.	Velocity of flue gas	m/sec	8.8

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm³	9.6	IS:11255:(P-1):1985
2.	NO_x	PPM	27.9	IS:11255(Part-7):2005
3.	SO_2	PPM	50	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

AHMEDABAD

Analyzed By: (Palak Patel)

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Shriram Alkali & Chemicals Unit of DCM Shriram Limited Jhagadia Dist. Bharuch

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190110

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources, (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191110
Description of Source	:	Stack attached to CFBC Boiler (Coal)- 2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	115
2.	Temperature of flue gas	°C	144
3.	Velocity of flue gas	m/sec	7.8

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	8	IS:11255 (P-1):1985
2.	NO_x	PPM	21.1	IS:11255(Part-7):2005
3.	SO_2	PPM	60	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

Analyzed By: (Palak Patel)

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DCM Shriram Limited Unit: Shriram Alkali & Chemicals Dist. Bharuch. Jhagadia

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190111

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/01/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20191111
Description of Source	:	Stack attached to Molten Salt Heater (Flaker Plant)-2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	251
3.	Velocity of flue gas	m/sec	9.6

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	14	IS:11255:(P-1):1985
2.	SO_2	PPM	9.9	IS:11255:(P-2):1985
3.	NO_x	PPM	15.1	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

AHMEDABAD

Analyzed By: (Palak Patel)

DCM Shriram Alkali & Chemicals Limited Unit's Jhagadia Dist. Bharuch

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190209

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190209
Description of Source	:	Stack attached to P.F. Boiler (Coal)	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	85
2.	Temperature of flue gas	°C	154
3.	Velocity of flue gas	m/sec	7.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm³	8.7	IS:11255:(P-1):1985
2.	NO_x	PPM	25.5	IS:11255(Part-7):2005
3.	SO_2	PPM	47	IS:11255:(P-2):1985

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
b) Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) Analyzed By: (Palak Patel)

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190210

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190210
Description of Source	:	Stack attached to CFBC Boiler (Coal)– 2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DT) 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	115
2.	Temperature of flue gas	°C	141
3.	Velocity of flue gas	m/sec	8.5

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	10	IS:11255 (P-1):1985
2.	NO_x	PPM	19.9	IS:11255(Part-7):2005
3.	SO_2	PPM	58	IS:11255:(P-2):1985

Note: a) Report maybe reproduced, if required, but only in full and only with written approval of the laboratory
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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) Analyzed By: (Palak Patel)

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190211

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	19/02/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190211
Description of Source	:	Stack attached to Molten Salt Heater (Flaker Plant)-2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	253
3.	Velocity of flue gas	m/sec	8.5

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	11	IS:11255:(P-1):1985
2.	SO_2	PPM	7.1	IS:11255:(P-2):1985
3.	NO_x	PPM	10.8	IS:11255(Part-7):2005

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) Analyzed By: (Palak Patel)

DCM Shriram Limited Shriram Alkali & Chemicals Unit Jhagadia Dist. Bharuch

Jhagadia Dist. Bharuch Unit Shriram Alkali & Chemicals DCM Shriram Limited

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190310

ANALYSIS REPORT OF STACK MONITORING

Name of Client	M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	Emission from Stationary Sources. (Stack/Vent)	Duration of Sampling (Minutes)	:	30 Min.
Date of Sampling	:	18/03/2019	Packing/Seal	:	Sealed with Proper Identification
Sample Collected By	:	SEPL Team	Lab ID Code	:	SEPL/SAC-20190310
Description of Source	:	Stack attached to CFBC Boiler (Coal)– 2	Test Parameters	:	As per result table
Instrument Used	:	Stack sampler VSS1 (Sr. No.75 DTJ 04)	Test Method	:	As per result table

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	115
2.	Temperature of flue gas	°C	146
3.	Velocity of flue gas	m/sec	9.3

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	12	IS:11255 (P-1):1985
2.	NO_x	PPM	17.6	IS:11255(Part-7):2005
3.	SO_2	PPM	54	IS:11255:(P-2):1985

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M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

Shriram Alkali & Chemicals Unit: DCM Shriram Limited Jhagadia Dist: Bharuch

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GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190311

ANALYSIS REPORT OF STACK MONITORING

Name of Client	**M/s.Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**Emission from Stationary Sources. (Stack/Vent)**	Duration of Sampling (Minutes)	:	**30 Min.**
Date of Sampling	:	**18/03/2019**	Packing/Seal	:	**Sealed with Proper Identification**
Sample Collected By	:	**SEPL Team**	Lab ID Code	:	**SEPL/SAC-20190311**
Description of Source	:	**Stack attached to Molten Salt Heater (Flaker Plant)-2**	Test Parameters	:	**As per result table**
Instrument Used	:	**Stack sampler VSS1 (Sr. No.75 DTJ 04)**	Test Method	:	**As per result table**

DETAILS OF STACK/VENT

SR. NO.	DESCRIPTION	UNIT	DATA
1.	Stack Height	mtr.	40
2.	Temperature of flue gas	°C	255
3.	Velocity of flue gas	m/sec	7.9

RESULT TABLE

SR. NO.	PARAMETER	UNIT	RESULTS	TEST METHOD
1.	SPM	mg/Nm^3	8	IS:11255:(P-1):1985
2.	SO_2	PPM	9.2	IS:11255:(P-2):1985
3.	NO_x	PPM	12.7	IS:11255(Part-7):2005

Note: a) **Report maybe reproduced, if required, but only in full and only with written approval of the laboratory**
b) **Re analysis of sample will be done, if requested within 7 days from the date of reporting of samples if not consumed during analysis.**

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD

Phone No. 079-26583077 Cell: 9825007201/9723766007 Email: shobha.sepl@gmail.com
401/402/423/424/324, Medicine Market, Opp. Shefali Center, Paldi Cross Road, Ahmedabad.

DCM Shriram Limited Unit: Shriram Alkali & Chemicals Dist. Bharuch

Annexure#5 : ESP efficiency certificate by Bharuch Enviro Infrastructure Ltd.

BHARUCH ENVIRO INFRASTRUCTURE LTD.
ANALYTICAL RESEARCH LABORATORY
TEST REPORT
MoEF Approved Laboratory NABL Accredited Lab ISO 14001 & BS OHSAS 18001 Certified Laboratory

Barcode ID: a6193d2fbf Report No/Sample ID: 5936178669 Report Date: 22-April-19

Name of Customer	SHRIRAM ALKALI & CHEMICALS ((A Unit of DCM Shriram Ltd.)		
Address of Customer	749, GIDC Industrial Estate, Jhagadia, Dist. Bharuch, Gujarat - 393110		
Sample Description	PF Boiler Efficiency		
Sample Quantity	01	Sample Received Date	10-April-2019
Sampling Location	PF Boiler (60)	Sampling Procedure	IS :11255 (Part 3)
Sample Collected By	By BEIL Team	Analysis Start Date	15-April-2019
Packing Detail	--	Analysis Completion Date	15-April-2019
		Fule	Coal

Sr. No.	Parameters	Unit	Result	Method Ref.	Permissible Limit
1	*Stack Diameter	Meter	3.5	--	--
2	*Stack Temperature	°C	148	IS:11255(Part-3), 2008	--
3	*Velocity	M/S	6.3	IS: 11255 (Part-3), 2008	--
4	*ESP Efficiency	%	99.99	By Velocity	--

BDL: Below Detectable Limit

* Parameters are not covered in NABL scope

---------- END OF REPORT ----------

For Bharuch Enviro Infrastructure Ltd.

ANALYSED BY VERIFIED BY AUTHORIZED BY
HOD (QA)

Works Office: Plot No 9701-16, G.I.D.C. Estate, Post Box No 82, Ankleshwar - 393002, Dist - Bharuch (Gujarat)
Tel: (02646) 253135, 225228 | Fax: (02646) 222849 | E-Mail: dalwadibd@beil.co.in, sathish.gaddam@beil.co.in
Regd. office: Plot No 117-118, G.I.D.C. Estate, Ankleshwar - 393002, Dist - Bharuch (Gujarat)
CIN NO : U45300GJ1997PLC032696
Terms & Condition are on backside

DCM Shriram Limited • Shriram Alkali & Chemicals • Unit: Jhagadia, Dist. Bharuch

BHARUCH ENVIRO INFRASTRUCTURE LTD.

ANALYTICAL RESEARCH LABORATORY

TEST REPORT

MoEF Approved Laboratory NABL Accredited Lab ISO 14001 & BS OHSAS 18001 Certified Laboratory

Barcode ID: e79a3bdc28 Report No/Sample ID: 5936178668 Report Date: 22-April-19

Name of Customer	SHRIRAM ALKALI & CHEMICALS ((A Unit of DCM Shriram Ltd.)		
Address of Customer	749, GIDC Industrial Estate, Jhagadia, Dist. Bharuch, Gujarat - 393110		
Sample Description	CFBC Boiler stack		
Sample Quantity	01	Sample Received Date	10-April-2019
Sampling Location	CFBC Boiler (48)	Sampling Procedure	IS :11255 (Part 3)
Sample Collected By	By BEIL Team	Analysis Start Date	15-April-2019
Packing Detail	--	Analysis Completion Date	15-April-2019
		Fule	Coal

Sr. No.	Parameters	Unit	Result	Method Ref.	Permissible Limit
1	*Stack Diameter	Meter	3.9	--	--
2	*Stack Temperature	°C	127	IS:11255(Part-3), 2008	--
3	*Velocity	M/S	6.7	IS: 11255 (Part-3), 2008	--
4	*ESP Efficiency	%	99.96	By Velocity	--

BDL: Below Detectable Limit

*Parameters are not covered in NABL scope

---------- END OF REPORT ----------

For Bharuch Enviro Infrastructure Ltd.

ANALYSED BY VERIFIED BY AUTHORIZED BY
HOD (QA)

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

Annexure#4 Details of Air Pollution Control Measures

Stack attached to Coal based power plant

Basic process involves steam generation by combustion of coal in boiler and through heat transfer steam is generated and same used to run turbine and power is generated by alternator coupled with steam turbine.

Blended Coal (Indigenous/Imported /Lignite/ Bio-mass) will be used as a fuel. Coal burning in boiler will generate flue gases comprising of NOx, SO_2 and PM.

Adequate capacity ESP (along with one additional field) will be provided for ensuring less than 50 mg/Nm^3 Particulate Matter emissions.

Adequate stack height will be provided for SO_2 dispersion (as per formulae $\{H = 14 \times (Q)^{0.3}\}$.

ESP

Adequate capacity ESP with one additional field shall be installed in Power plant before final exhaust.

The following design criteria form the basis for the selection and performance guarantees of the Electrostatic precipitator is as given in following table.

Table: Details of ESP

S. No.	Description	Unit	Parameter
1	Required PM emission at ESP Outlet	mg/ Nm^3	<50
2	Number of fields as standby	Number	1
3	Collection Efficiency	%	>99.7 %

Waste Chlorine Absorption System (Hypo Plant)

Waste chlorine generated during start up, abnormal operation and tripping will be fed to the chlorine absorption towers. These towers will be packed tower and caustic solution shall be circulated to absorb chlorine and temperature of the liquid shall be controlled by heat transfer through plate type heat exchanger with chilled water. The gaseous emission from hypo tower shall be within the GPCB prescribed limits (chlorine <9 mg/Nm^3 and HCl<20 mg/Nm^3). A stack height of 30 m has been proposed for effective dispersion of traces of chlorine / inert gases.

HCl Plant

HCl furnaces of 40,000 TPA capacity is proposed.

Scrubbers

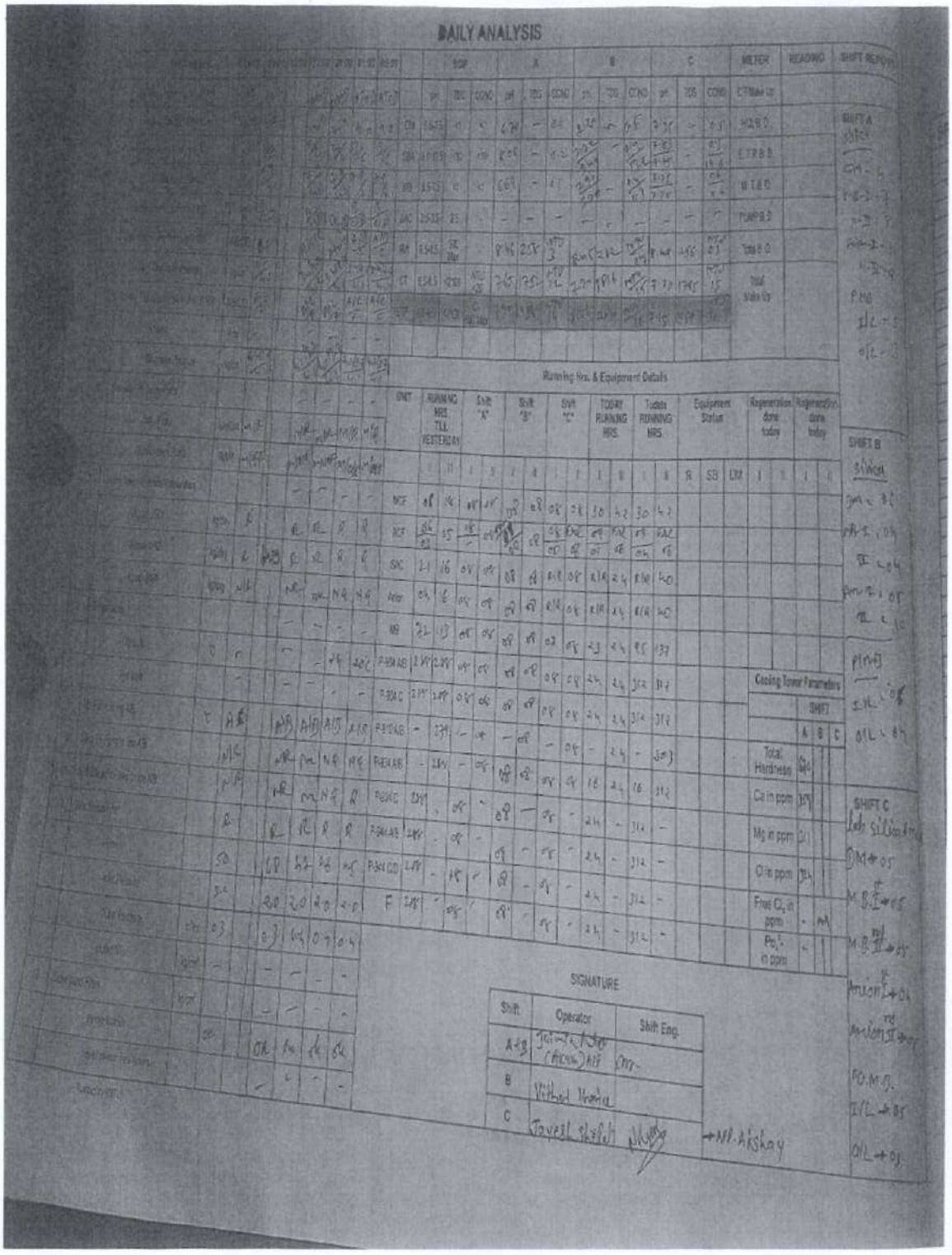
SAC shall install scrubbers at Chlorine Absorption Unit – Hypo Plant (New), HCl Units, which will be water/caustic scrubbers. Details of these proposed scrubbers are given in following table.

Table: Details of Scrubbers

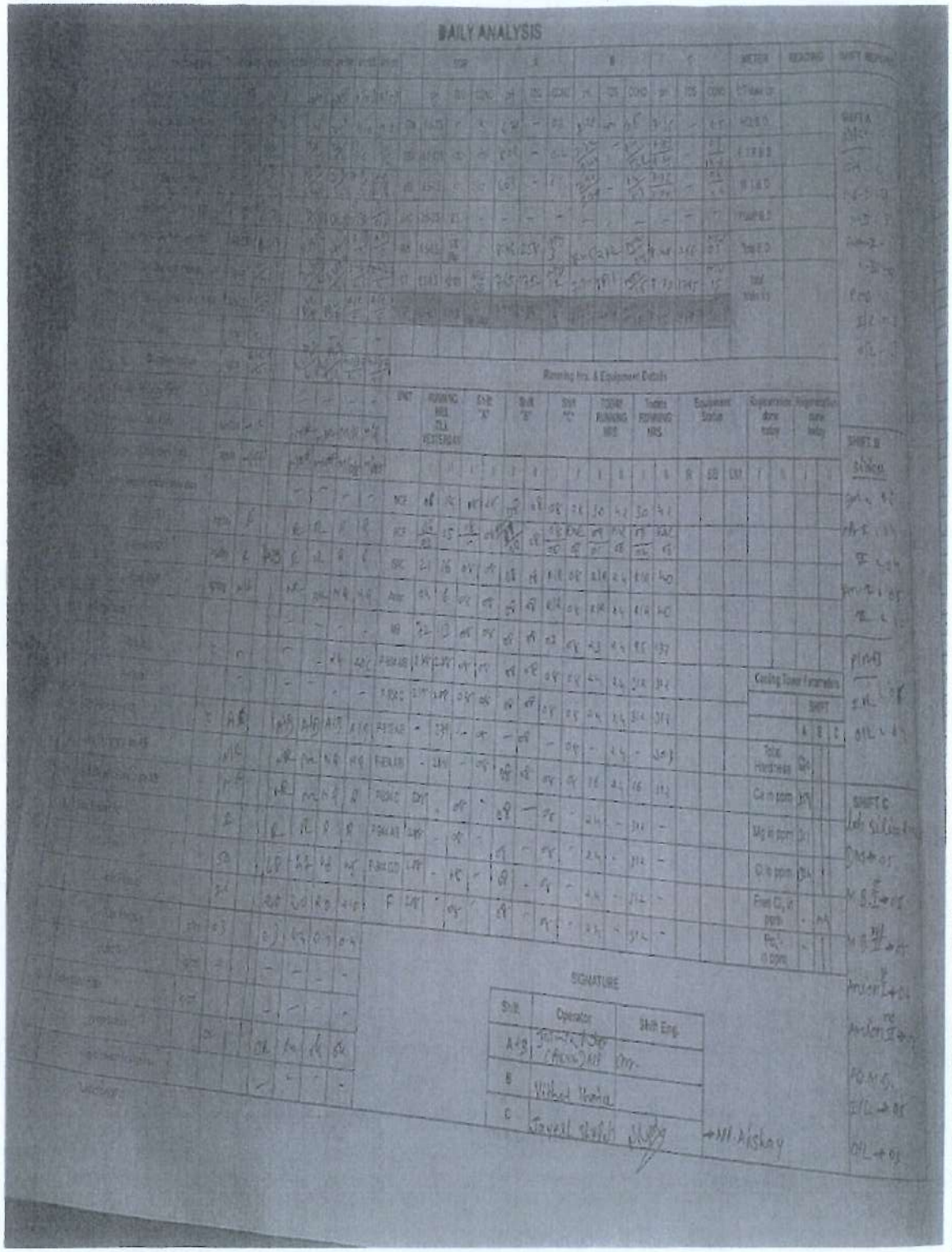
S. No.	Scrubber Attached to	Particulars	Specifications
1	Chlorine Absorption Unit -Hypo Plant	Name & Type	Vent Scrubber, Packed bed Column
		Packing	PP Pall Ring
		MOC	PVC FRP
		Scrubbing Agent	18% NaOH
		Bleed off %	2% NaOH
		Scrubber Volume	21.1 M^3 x 2
		Pump Flow	90 m^3/Hr.

S. No.	Scrubber Attached to	Particulars	Specifications
		Caustic Storage	10 m^3
		Blowers capacity	3 nos. 3,000 m^3/Hr.
2	HCl Units	Name & Type	Vent Scrubber
		Packing	PP Pall Ring
		MOC	PVC FRP
		Scrubbing Agent	3% NaOH
		Bleed off %	N.A.
		Scrubber Volume	0.4m^3
		Pump Flow	6 m^3/Hr.
		Caustic Storage	2.37 m^3
		Blowers capacity	1no. 600 m^3/Hr.

Annexure#3 Logbook of the ETP:



Annexure#3 Logbook of the ETP:



Annexure#2 Analysis report of treated effluent for the Month of Oct-18 to March-19 done by M/S SAN Envirotech Pvt. Ltd., Ahmedabad

SAN ENVIROTECH PVT. LTD.

Accredited QCI-NABET Consultant
MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	24/10/2018
REF.NO.	SEPL/SAC-20181013

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20181013**
Date of Sampling	:	**16/10/2018**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.76	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	^{0}C	34	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	12	IS 3025(Part 4) : 383
5.	TSS	mg/L	29	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	49	APHA & AWWA.23 Edition
8.	BOD(3 days at 27^{0}C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23rdEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.17	APHA & AWWA.23rdEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.24	APHA & AWWA.23rdEdition
16.	Nitrate – Nitrogen	mg/L	0.71	APHA & AWWA.23rdEdition
17.	Zinc	mg/L	0.0011	AAS
18.	Iron	mg/L	0.0009	AAS
19.	Copper	mg/L	0.0005	AAS
20.	Trivalent Chromium	mg/L	0.02	APHA & AWWA.23rdEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0022	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0005	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0012	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31	Total Chromium	mg/L	0.02	--
32	Total Heavy Metal	mg/L	0.0064	--

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENT CONSULTANTS

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401/402/423/424/324, Medicine Market, Opp. Shefali Center, Paldi Cross Road, Ahmedabad.

Shriram Alkali & Chemicals Unit Dahej Dist. Bharuch Limited

SAN ENVIROTECH PVT. LTD.
Accredited QCI-NABET Consultant
MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR
ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181113

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20181113**
Date of Sampling	:	**16/11/2018**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.77	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	°C	33	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	18	IS 3025(Part 4) : 1983
5.	TSS	mg/L	23	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	52	APHA & AWWA.23 Edition
8.	BOD(3 days at 27°C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23rd Edition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rd Edition
14.	Fluoride	mg/L	0.21	APHA & AWWA.23rd Edition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.29	APHA & AWWA.23rd Edition
16.	Nitrate – Nitrogen	mg/L	0.65	APHA & AWWA.23rd Edition
17.	Zinc	mg/L	0.0009	AAS
18.	Iron	mg/L	0.0011	AAS
19.	Copper	mg/L	0.0007	AAS
20.	Trivalent Chromium	mg/L	0.05	APHA & AWWA.23rd Edition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0027	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0008	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0018	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31	Total Chromium	mg/L	0.05	--
32	Total Heavy Metal	mg/L	0.008	--

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

SAN ENVIROTECH PVT. LTD. AHMEDABAD

Phone No. 079-26583077 Cell: 9825007201/9723766007 Email: shobha.sepl@gmail.com
401/402/423/424/324, Medicine Market, Opp. Shefali Center, Paldi Cross Road, Ahmedabad.

Shriram Limited • Alkali & Chemicals • Dist. Bharuch

SAN ENVIROTECH PVT. LTD.

Accredited QCI-NABET Consultant
MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	23/11/2018
REF.NO.	SEPL/SAC-20181113

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20181113**
Date of Sampling	:	**16/11/2018**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.77	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	°C	33	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	18	IS 3025(Part 4) : 1983
5.	TSS	mg/L	23	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	52	APHA & AWWA.23 Edition
8.	BOD(3 days at 27°C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23rdEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.21	APHA & AWWA.23rdEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.29	APHA & AWWA.23rdEdition
16.	Nitrate - Nitrogen	mg/L	0.65	APHA & AWWA.23rdEdition
17.	Zinc	mg/L	0.0009	AAS
18.	Iron	mg/L	0.0011	AAS
19.	Copper	mg/L	0.0007	AAS
20.	Trivalent Chromium	mg/L	0.05	APHA & AWWA.23rdEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0027	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0008	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0018	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31	Total Chromium	mg/L	0.05	--
32	Total Heavy Metal	mg/L	0.008	--

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendar Sadaria)

Analyzed By: (Palak Patel)

SAN ENVIROTECH PVT. LTD. AHMEDABAD

Shriram Alkali & Chemicals Limited Dist. Bharuch Jhagadia

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401/402/423/424/324, Medicine Market, Opp. Shefali Center, Paldi Cross Road, Ahmedabad.

SAN ENVIROTECH PVT. LTD.

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MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	25/12/2018
REF.NO.	SEPL/SAC-20181211

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client		**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**			
Address		749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110			
Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20181211**
Date of Sampling	:	**17/12/2018**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.75	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	°C	32	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	22	IS 3025(Part 4) : 1983
5.	TSS	mg/L	27	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	61	APHA & AWWA.23 Edition
8.	BOD(3 days at 27°C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23rdEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.27	APHA & AWWA.23rdEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.32	APHA & AWWA.23rdEdition
16.	Nitrate – Nitrogen	mg/L	0.73	APHA & AWWA.23rd Edition
17.	Zinc	mg/L	0.0011	AAS
18.	Iron	mg/L	0.0014	AAS
19.	Copper	mg/L	0.0004	AAS
20.	Trivalent Chromium	mg/L	0.03	APHA & AWWA.23rdEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0024	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0006	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0016	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31.	Total Chromium	mg/L	0.03	--
32.	Total Heavy Metal	mg/L	0.007	--
33.	Bio Assay Test	90% survival of fish after 96 hours in 100% effluent	98% survival of fish after 96 hours in 100% effluent	APHA & AWWA.23rdEdition

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendra Sadaria) **Analyzed By: (Palak Patel)**

SAN ENVIROTECH PVT. LTD. AHMEDABAD ENVIRONMENTAL AUDITORS & CONSULTANTS

Phone No.:079-26583077 Cell: 9825007201/9723766007 Email: shobha.sepl@gmail.com
401/402/423/424/324, Medicine Market, Opp. Shefali Center, Paldi Cross Road, Ahmedabad.

DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

SAN ENVIROTECH PVT. LTD.

Accredited QCI-NABET Consultant
MoEF Recognized Environmental Laboratory Under EP Act, 1986
GPCB Recognized Schedule-II Auditors
ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ENVIRONMENTAL AUDITOR & CONSULTANTS

ISSUE DATE	26/01/2019
REF.NO.	SEPL/SAC-20190112

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20191113**
Date of Sampling	:	**18/01/2019**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.78	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	^{0}C	30	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	19	IS 3025(Part 4) : 1983
5.	TSS	mg/L	26	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	58	APHA & AWWA.23 Edition
8.	BOD(3 days at 27^{0}C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23ndEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.16	APHA & AWWA.23ndEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.28	APHA & AWWA.23ndEdition
16.	Nitrate – Nitrogen	mg/L	0.69	APHA & AWWA.23ndEdition
17.	Zinc	mg/L	0.0017	AAS
18.	Iron	mg/L	0.0008	AAS
19.	Copper	mg/L	0.0006	AAS
20.	Trivalent Chromium	mg/L	0.07	APHA & AWWA.23ndEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0028	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0004	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0017	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31	Total Chromium	mg/L	0.04	--
32.	Total Heavy Metal	mg/L	0.008	--

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.
Checked By: (Dr. Mahendar Sadaria) **Analyzed By: (Palak Patel)**

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DCM Shriram Limited • Unit: Shriram Alkali & Chemicals • Jhagadia, Dist. Bharuch

ISSUE DATE	25/02/2019
REF.NO.	SEPL/SAC-20190212

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	ETP OUTLET	Lab ID Code	:	SEPL/SAC-20190213
Date of Sampling	:	19/02/2019	Mode of Sampling	:	Grab
Sample Collected By	:	SEPL Team	Packing/Seal	:	Sealed with Proper Identification
Test Parameters & Method	:	As per Result Table	Quantity /No. of Sample	:	1.5 Lit x 01 No

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.77	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	°C	32	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	21	IS 3025(Part 4) : 1983
5.	TSS	mg/L	20	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	62	APHA & AWWA.23 Edition
8.	BOD(3 days at 27°C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/l	BDL	APHA & AWWA.23rdEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.22	APHA & AWWA.23rdEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.34	APHA & AWWA.23rdEdition
16.	Nitrate – Nitrogen	mg/L	0.71	APHA & AWWA.23rdEdition
17.	Zinc	mg/L	0.0014	AAS
18.	Iron	mg/L	0.0006	AAS
19.	Copper	mg/L	0.0009	AAS
20.	Trivalent Chromium	mg/L	0.05	APHA & AWWA.23rdEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0032	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Venedium	mg/L	ND	AAS
26.	Leed	mg/L	0.0007	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0019	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31	Total Chromium	mg/L	0.06	--
32	Total Heavy Metal	mg/L	0.0087	--

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

M/s. SAN Envirotech Pvt. Ltd.

Checked By: (Dr. Mahendar Sadaria) Analyzed By: (Palak Patel)

DCM Shriram Limited • Shriram Alkali & Chemicals Unit • Jhagadia, Dist. Bharuch

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ISO 9001, 14001 & OHSAS 18001 Certified Company
GSTIN: 24AAGCS5415C1ZR

ISSUE DATE	25/03/2019
REF.NO.	SEPL/SAC-20190312

ANALYSIS REPORT OF WASTE WATER SAMPLE

Name of Client	**M/s. Shriram Alkali & Chemicals (A unit of DCM Shriram LTD)**
Address	749, GIDC Industrial Estate ,Jhagadia, Dist:-Bharuch-393 110

Description of sample	:	**ETP OUTLET**	Lab ID Code	:	**SEPL/SAC-20190312**
Date of Sampling	:	**18/03/2019**	Mode of Sampling	:	**Grab**
Sample Collected By	:	**SEPL Team**	Packing/Seal	:	**Sealed with Proper Identification**
Test Parameters & Method	:	**As per Result Table**	Quantity /No. of Sample	:	**1.5 Lit x 01 No**

RESULT TABLE

SR. NO.	PARAMETER	Unit	RESULT	TEST METHOD
1.	pH	pH unit	7.76	IS:3025 (Part-11):1983
2.	Odour	--	Unobjectionable	3025(Part 5)
3.	Temperature	°C	33	IS:3025 (Part-9):1984
4.	Color	Co-Pt Unit	24	IS 3025(Part 4) : 1983
5.	TSS	mg/L	31	IS:3025 (Part-17):1984
6.	Oil & Grease	mg/L	BDL	IS 3025(Part 39) : 1991
7.	COD	mg/L	59	APHA & AWWA.23 Edition
8.	BOD(3 days at 27°C)	mg/L	BDL	IS 3025 (Part-44) : 1993
9.	Ammonical Nitrogen as N	mg/L	BDL	APHA & AWWA.23rdEdition
10.	Sulphide as S	mg/L	BDL	IS 3025(Part 29) : 1986
11.	Phenolic Compound	mg/L	BDL	IS: 3025 (Part 43)- 1992
12.	Total Residual Chlorine	mg/L	BDL	IS 3025(Part 26) : 1986
13.	Hexavalent Chromium	mg/L	BDL	APHA & AWWA.23rdEdition
14.	Fluoride	mg/L	0.14	APHA & AWWA.23rdEdition
15.	Total Kjeldahl Nitrogen (TKN)	mg/L	0.29	APHA & AWWA.23rdEdition
16.	Nitrate – Nitrogen	mg/L	0.66	APHA & AWWA.23rdEdition
17.	Zinc	mg/L	0.0011	AAS
18.	Iron	mg/L	0.0009	AAS
19.	Copper	mg/L	0.0007	AAS
20.	Trivalent Chromium	mg/L	0.08	APHA & AWWA.23rdEdition
21.	Manganese	mg/L	<0.01	AAS
22.	Nickel	mg/L	0.0029	AAS
23.	Arsenic	mg/L	ND	AAS
24.	Cyanide, as C	mg/L	ND	AAS
25.	Vanedium	mg/L	ND	AAS
26.	Lead	mg/L	0.0005	AAS
27.	Selenium	mg/L	ND	AAS
28.	Cadmium	mg/L	0.0015	AAS
29.	Mercury	mg/L	<0.01	AAS
30.	Pesticides	mg/L	Absent	GC
31.	Total Chromium	mg/L	0.07	--
32.	Total Heavy Metal	mg/L	0.0076	--
33.	Bio Assay Test	90% survival of fish after 96 hours in 100% effluent	98% survival of fish after 96 hours in 100% effluent	APHA & AWWA.23rdEdition

Note: BDL=Below Detection Limit for Oil & Grease=1.4 mg/L, BOD=2 mg/L, Ammonical Nitrogen=5 mg/L, Cr^{+6}=0.01 mg/L, Total Cr=0.02 mg/L, Sulphide= 0.1 mg/L, Phenolic Compound = 0.001 mg/L, Residual Chloride =1.0 mg/L

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Annexure 1: Approval Letter from the GIDC for Water Supply

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION
[A Govt. of Gujarat Undertaking]
Office of the Dy. Executive Engineer,
Plot no - 40, Near PepsiCo. Road no 08, GIDC,
Jhagadia Industrial Estate.

No: GIDC/DEE/JHG/ 234 DATE- 16/7/18

To Whom So Ever It May be Concern

This is to certify that, GIDC has adequate quantity of water to meet the requirement of 24000.00 KL per Day of M/s DCM Shriram Ltd, Plot no 749, GIDC Jhagadia subject to have necessary NOC from GPCB.

GIDC shall provide above quantity of water through direct (Express) pipeline from the GIDC water supply sump as per GIDC water supply rules and regulations.

Office of The Dy. Executive Engineer GIDC Jhagadia

Dy. Executive Engineer 16/7
GIDC Jhagadia

To,
M/s DCM Shriram,
Plot No. 749
G.I.D.C, Jhagadia

Shriram Limited • Alkali & Chemicals • Unit: Shriram Nagar, Dist. Bharuch