

Six Monthly Compliance Report of Environmental Clearance For

Viscose Staple Fibre, Sulphuric Acid and Carbon-Di-sulphide



EC-2007

Submitted to:-

Ministry of Environment Forest & Climate

Change, (WR Office) Bhopal Ministry of Environment

Forest & Climate Change, New Delhi

Central Pollution Control Board, Zonal Office

(Vadodara) Gujarat Pollution Control Board-Bharuch

Submitted By:-

Grasim Industries Limited

(Unit: - Grasim Cellulosic Division)

Plot No. 1 GIDC Vilayat Industrial Estate,
PO-Vilayat, Taluka-Vagra, Dist: - Bharuch-

392012, Gujarat, India

Period: -01.10.2019 to 31.03.2020

**Compliance Status Report for “Environmental Clearance” Accorded by the MoEF
For
Grasim Cellulosic Division (GCD), Viayat Project**

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Compliance Status Report for “Environmental Clearance” Accorded by the MoEF

For

Grasim Cellulosic Division (GCD), Vilayat Project

-: Introduction: -

1. Grasim Industries Limited (GIL), incorporated on 25th Aug., 1947; is a flagship company of the Aditya Birla Group and India's pioneer in manufacturing of Viscose Staple Fibre (VSF) a man-made, biodegradable fibre with characteristics akin to cotton.
2. M/s. Grasim Industries Ltd. has four VSF Plants in India which are located at Nagda (Madhya Pradesh), Harihar (Karnataka), Kharach & Vilayat (Gujarat).
3. Grasim Cellulosic Division, Vilayat is a latest plant in the Pulp & Fibre business, commissioned in Apr-2014 which produces both grey VSF and specialty fibre. This is the company's first plant producing specialty grade fibre.
4. The Company's main production is Viscose Staple Fibre, Sulphuric Acid, Carbon-Disulphide.
5. All the operation related permits, including Environmental Clearance, Forest Clearance from MOEF&CC and Consents to Establish (CTE) & Consent to Operate (CTO) has obtained from Gujarat Pollution Control Board, are in place.
6. Environmental quality monitoring in & around the project site is being carried out by GPCB & NABL approved Laboratory on a regular basis.
7. 04 No. of Ambient Air Quality Monitoring Stations (AAQMS) along with Environmental Parameter Display Board at main gate have been established.
8. Continuous Emission Monitoring System has installed in process stacks of Rayon (Fibre) plant and H₂SO₄ acid plant for regular monitoring of CS₂, SO₂ etc.
9. Online TOC, pH & flow meters installed at the outlet of ETP, before discharging treated effluent to GIDC pipeline.
10. Green belt is being developed as per the CPCB guidelines to curb the emission and also to provide an aesthetic look.
11. Point wise compliance status of Environmental Clearance for GCD, Vilayat is furnished herewith.

Compliance Status Report for “Environmental Clearance” Accorded by the MoEF
For
Grasim Cellulosic Division (GCD), Vilayat Project

Compliance status on Environmental Clearance
MOEF Ref. Letter No.: J-11011/463/2007-IA II (I), dated 20-12-2007

| Sr. No. | Stipulation | Compliance Status |
|---------|--|--|
| 1 | This reference to application No. Nil, dated 9 th May-2007 along with Form-I & pre-feasibility report seeking the environmental clearance for the above mentioned project and subsequent correspondence vide letters dated 28 th September 2007, 13 th October 2007 and 30 th November 2007. | - |
| 2 & 3 | The Ministry of Environment & Forest has examined the proposal along with the correspondence mentioned above and noted the proposal is to set up the Viscose Staple Fibre (VSF) plant at plot # 1, GIDC Industrial estate, Vilayat, Vagra, Bharuch district Gujarat by M/s Grasim Industries Limited (Grasim Cellulosic Division) | Latitude : 21 deg 46’8” and 21 deg 47’11”North Longitude : 72 deg 53’18”and 72 deg 54’49”East |
| | The Total Cost of the Project is Rs. 1200 Crores | Total Cost 1703 Crores |
| | No ecological sensitive areas are located within 15 KM periphery of the plant site. | Yes |
| | The proposed plant is to be located in notified Industrial area at GIDC (Gujarat Industrial Development Corporation) | Yes |
| | Total land taken on lease from Gujarat Industrial Development Corporation for the plant is 567 Acres. | 530 Acre area provided on lease from GIDC after having provision of land for power corridor. GIDC offer letter attached as Annexure-1 |

Following will be the products & production capacity:-

| Products=> | Viscose Staple Fibre | Carbon Di sulphide | Sulfuric Acid | Sodium Sulphate (Byproduct) | Power Generation |
|--|--|--|----------------------|------------------------------------|-------------------------|
| EC Amendment As per EC No. J-11011/463/2007-IA II (I), Dated 20.12.2007 | 127750 | 23725 | 102200 | 83038 | 25 MW |
| EC Amendment As per EC No. F. No. J-11011/321/2016-IA-II(I) Pt Dated – 15.01.2018 | 255500 (36500 by De bottle necking & 91250 by new lines) | 34675 | 182500 | 166076 to 210788 | 55 MW |
| Total Production (Tons) – Oct-19 to Mar-20 | 85154 | 11895 | 54006 | 54623 | - |
| Total Production (Tons) – Apr-19 to Sep-19 | 84419 | 15874 | 64690 | 52758 | - |
| Total Production (Tons) – FY-19 | 159629 | 27122 | 109640 | 108943 | - |
| Total Production (Tons) – FY-18 | 133644 | 20297 | 112300 | 101093 | - |
| Raw Material Consumption (TPA) As per EC F. No. J-11011/463/2007-IA-II(I), Dated – 20.12.2007 | Pulp (Dissolving Grade) 130305 | Caustic Soda 100% 74095 | Sulphur 55079 | Charcoal 7118 | |
| Consumption (Tons) Oct-19 to Mar-20 | 85469 | 43745 | 28102 | NIL | |
| Consumption (Tons) Apr-19 to Sep-19 | 84766 | 45432 | 34978 | NIL | |
| Consumption (Tons) FY-19 | 160595 | 91930 | 59121 | NIL | |
| Total Consumption FY-18 | 134990 | 80392 | 53874 | NIL | |

Note for Production Quantity: -_State Environmental Impact Assessment Authority (SEIAA), Gujarat has also issued an amendment vide letter no. SEIAA/Guj./EC/1(d2), 4(d) & 5(f) /96/2011, dated 30-May-2011 in their Permission to increase production of CS2 to 31025 TPA and H2SO4 to 36500 TPA, EC copy has attached as **Annexure-2**

Justification for Raw Material Quantity: Pulp & Caustic consumption is increased due increase in VSF production under de-bottlenecking after receiving EC amendment in Jan-2018. Coal (255500 TPA) will be used as a Raw Material: -

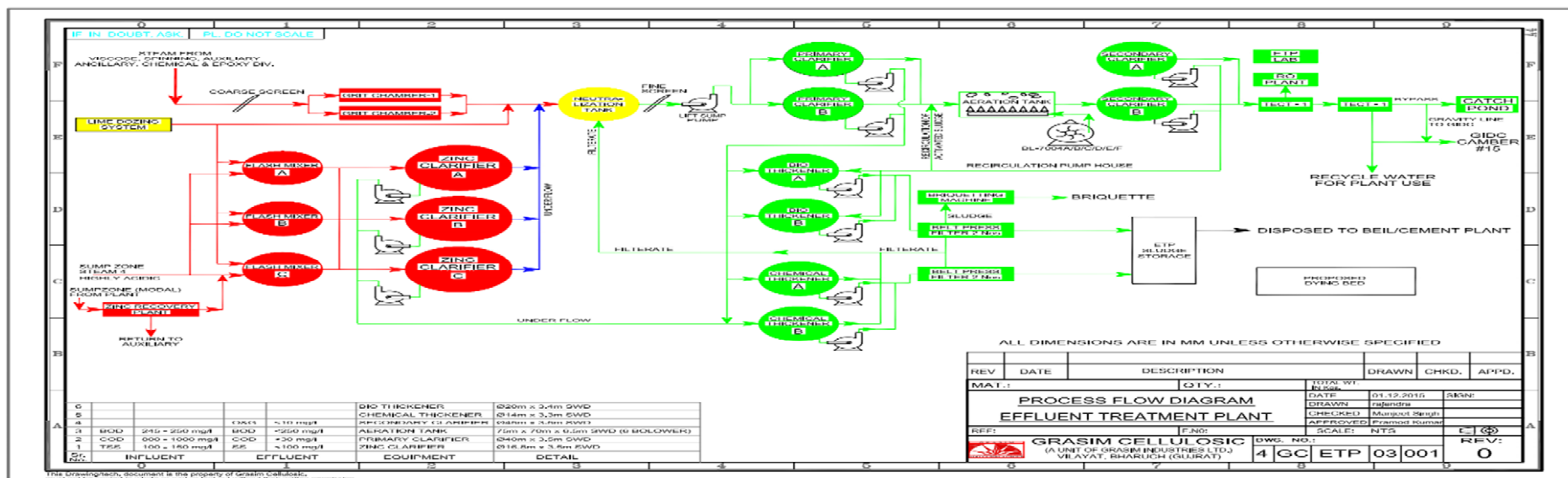
Power Plant Covered under Chemical Division consent. State Environmental Impact Assessment Authority (SEIAA), Gujarat has issued an amendment vide letter no. SEIAA/Guj./EC/1(d), 4(d) & 5(f) /96/2011, dated 30-May-2011 for use of natural gas in place of charcoal in CS2 plant, details attached as **Annexure-2**

| | |
|--|---|
| Total Water Requirement of the plant will be 25,000 m3/day and will be sourced from Narmada River, supplied by GIDC. | Average Water consumption for last six months (Oct'19 to Mar'20) 13,486 m3/day (for VSF plant only), sourced from Narmada River, supplied by GIDC (Except Power plant), following are the tabulated water Consumption details in Table No.01 |
|--|---|

| | | | | | | |
|--|-------------|----------------------------|---------|--|--|---|
| 4 | Table No.01 | | | | Following are the GIDC offer cum allotment letter details. | |
| | Month | Water Consumption (m3/day) | | | 1) Letter No. | GIDC/POJ/MKT/GRASIM/575 Dated 06 th December-2006 |
| | | Average | Minimum | Maximum | Agreement for Water Supply | 15.60 MLD |
| | Oct-19 | 13293 | 11046 | 14618 | Effluent Discharge | 12.48 MLD |
| | Nov-19 | 13598 | 11634 | 14763 | | |
| | Dec-19 | 14222 | 12868 | 15914 | 2) Letter No. | GIDC/SE/CG//BRH/1236 Dated 29 th December-2016 |
| | Jan-20 | 13778 | 12625 | 15777 | Agreement for Water Supply | 25.00 MLD |
| | Feb-20 | 13654 | 12314 | 15611 | Effluent Discharge | 19.40 MLD |
| | Mar-20 | 11406 | 2559 | 14967 | | |
| | Avg. | 13325 | | | | |
| | | | | 3) Letter No. | GIDC/BRH/WS/494 Dated 3rd.July,2019 | |
| | | | | Agreement for Water Supply | 35.00 MLD | |
| Necessary agreement of water supply is made with GIDC | | | | Agreement of water supply is made with GIDC on 06.12.2006 , details as per Annexure-1 & 1A. | | |
| A full-fledged Effluent Treatment Plant will be installed with Primary & Secondary treatment facilities based on extended aeration activated sludge process. | | | | Full Fledged ETP installed, which comprises of; 1. Primary Treatment: -Grit Chambers, Equalization tank, Neutralization tank & Primary Clarifier with sludge dewatering system installed. 2. Extended aeration activated sludge process: -Diffused aeration system. 3. Secondary treatment: - Biological reactor with secondary clarifier & settling tanks. | | |
| Treated effluent quality for the period of Oct-19 to Mar-20 is summarized as under Table no. 02 | | | | | | |
| Monthly Test Report from Unistar Refer as Annexure – 3 | | | | | | |
| Third Party Lab Details: - | | | | | | |
| Agency: - Unistar Environment & Research lab Pvt. Ltd | | | | NABL : - NABL Certificate Number TC-7753 | | |
| Address: -GIDC, Char Rasta, Vapi | | | | NABL Certificate Issue Date & Expiry Date: - 15.09.2018 to 14.09.2020 (Copy of NABL Certificate is attached with Test Report (Annexure-3)) | | |

FINAL TREATED EFFLUENT

ETP PFD: -



| | | | |
|-------------------|---|---|--|
| | After treatment the treated effluent will be disposed of in Gulf of Khambhat via pipeline already laid by GIDC | | Treated effluent is being pumped to GIDC effluent collection station, Vilayat, from where it is pumped to Gulf of Khambhat by GIDC. |
| 5 | The main source of Air pollution will be CS2 plant, Viscose plant, Sulphuric Acid plant and Coal based captive power plant. The proposed pollution control equipment are: | | |
| | CS2 Plant | Carbon disulphide recovery system | 4 nos. CS2 Recovery system using condensation route installed in spinning section. |
| | | Oil scrubbing system for recovery of CS2 | This is not applicable as the installation is natural gas based CS2 plant. |
| | | Water/ chilled water condensers | |
| | | Brine condensers | Genosorb system is installed |
| | | Klaus kiln for CS2 plant | Klaus kiln for CS2 plant installed to recover Sulphur |
| | | The stack of 175m shall be provided to reduce GLC of CS2 & H2S | The stack of 175m has provided to reduce GLC of CS2 & H2S from VSF plant. |
| | | Dust extraction cum Ventury scrubbing System for CS2 Furnace | Not applicable as CS2 is manufactured by natural gas instead of charcoal. |
| | Acid Plant | Gas scrubbing system for tail gases | Two stage Caustic Scrubber installed |
| | | Mist eliminators | Installed for all 3 nos. of towers |
| | Power plant | Electrostatic Precipitator (ESP) in power plant along with 100 m height stack | Electrostatic Precipitator (ESP) in power plant along with 125 m height stack installed under chemical Division |
| | | Ash Handling plant | Ash Handling Plant Installed as a part of Chemical Division. |
| Auxiliary section | Cyclone | Cyclones are installed | |
| | Water scrubbers | Ventury water scrubbers are Installed | |
| 6 | During regeneration process of Cellulose from Viscose in Spg. Machine CS2 & H2S will be liberated. It will be extracted through powerful exhaust system and discharged through chimney. | | CS2 & H2S from Spg. Machine is extracted through Powerful exhaust system provided at spinning machines, connected with main chimney of 175m height through genosorb plant. |
| | The part of liberated fugitive emission in work zone area will be controlled by modified exhaust system, motorized curtain in Spg. Machine, Air curtain at stretch & feed rollers and modified bottom exhaust | | The part of liberated fugitive emission in work zone area is controlled by modified exhaust system, motorized curtain in Spg. Machine. |

Spent catalyst (2.5 MT/Year)

Spent Catalyst Disposal Details are as under **Table No.03**

| Table No. 03 | |
|--------------------------------|---|
| Disposed To. | TSDF (Refer BEIL Membership as Annexure-10) |
| Agency: - | Bharuch Enviro Infrastructure Limited |
| Reference | BEIL/ANK/2019 |
| Membership Qty | 5000 Ton/Annum |
| Consent Qty. 2.5MT/Year | |
| Oct-19 to Mar-20 | 0.0 MT |

Spent resin from D.M plant (4 MT/Year)

Spent Resin Disposal Details are in following table

| | |
|---------------------------------|---|
| Disposed To. | TSDF (Refer BEIL Membership as Annexure-10) |
| Agency: - | Bharuch Enviro Infrastructure Limited |
| Reference | BEIL/ANK/2019 |
| Membership Qty | 5000 Ton/Annum |
| Consent Qty. 4.0 MT/Year | |
| Oct-19 to Mar-20 | 0.0 MT |

Sulphur de-ashing sludge will be disposed off through common TSDF

Sulphur de-ashing sludge is not generated as we have natural gas based CS2 plant.

Used oil will be sold to CPCB registered recyclers

Used Oil Sold to CPCB Registered Agency & following are the details of Agency in **Table No 04 & Refer Annexure-4** for Vendor Registration.

| Table No. 04 | |
|-----------------------------------|--|
| Used Oil is being sent to. | Registered refiners as per CC&A guidelines |
| Recycler Details | M/s ABC Organics & Chemicals, plot # 605, GIDC Estate, Panoli, Dist. Bharuch (Gujarat) |
| Registration no. | GPCB/HAZ-RF-184/45/2014, Dated 17/12/2014. |
| Membership Qty | 1500 Ton/Annum |

| | | | | | |
|--|---|--|---------|--|--|
| | | Consent Qty. 10.0 MT/Year | | | |
| | | Oct-19 to Mar-20 | 5.14 MT | | |
| | Fly ash will be disposed off as per Fly Ash Notification 2003 and used for brick / cement manufacturing | We have not installed power plant. Power & steam is being taken from CPP operated by our Chemical Division. (Annexure-5) Whenever we install power plant after EC is obtained, we commit for 100% utilization of fly ash. | | | |
| | | | | | |

| | | |
|---|--|---|
| 8 | The expert appraisal committee (Industry) in its 73 rd meeting held on 24 th -26 th Oct-2007 considered the proposal. All manmade fibres (Rayon) manufacturing units are listed at Sl. 5(d) of schedule of EIA notification 2006 under category A, hence appraisal is at Central level. Since the project located at GIDC, Vilayat, Vagra,. It does not need public consultation as per Para 7(i) III, stage (3) b. | The condition as mentioned are complied |
| 9 | Based on information submitted by the project authority, the MoEF accords environmental clearance to the above project under EIA notification 2006 subject to the compliance to the below specific & general conditions. | The compliance status are as below; |

A. Specific Condition : -

| | | |
|---|---|---|
| 1 | The project authority shall maintain emission limit of 50 kg/Ton of Viscose Staple Fibre (VSF) for Carbon di-sulphide (CS2) | We are complying the said stipulation by maintaining emission limits below 50 Kg/T of VSF for CS2. The details are tabulated in below Table No. 05 |
|---|---|---|

Emission of CS2 /Ton of Viscose Staple Fibre (VSF): Monthly Stack Monitoring Report from Unistar Please Refer Annexure-6

| | Third Party Lab Details | Month & Date of Sample | CS2 (Kg/Ton of Fibre) |
|--|---|------------------------|--------------------------|
| | | Consent Value | 50 |
| | Agency: - Unistar Environment & Research lab Pvt. Ltd | Oct-19 | 47.0 |
| | Address: - Near GIDC, Char Rasta, Vapi | Nov-19 | 45.0 |
| | NABL : - NABL Certificate Number TC-7753 | Dec-19 | 47.0 |
| | Details of instrument Used for Monitoring: - Instrument Name: - Stack Monitoring Kit Vss1 Instrument ID: - UERL-D/AIR/SMK/01 Serial No.:- 467 DTJ 15 Calibration Date:- 28.06.2019 Expiry Date: - 27.06.2020 | Jan-20 | 45.0 |
| | | Feb-20 | 40.0 |
| | | Mar-20 | 42.0 |
| | | Min | 40.0 |
| | | Max | 47.0 |
| | | Avg | 44.3 |
| | | | |

| | | |
|---|--|--|
| 2 | A guard/polishing pond shall be provided before discharge of treated waste water into GIDC pipeline for discharge into sea | 2 nos. of guard ponds, each of (L: 90 m, B: 60 m, SWD: 6.5m) equivalent to 50,000m3 capacity installed, which is suitable for storage of 48 hrs. have been provided before discharge of treated waste water into GIDC pipeline for discharge into Sea. Photograph of guard pond are shown at Figure-01 . |
|---|--|--|

Figure – 01: - Guard pond for storage of Treated effluent



| | | |
|---|-----------------------------------|---|
| 2 | TOC should continuously monitored | TOC Meter is placed to continuously monitored TOC meter & following are the TOC meter reading tabulated in Table No. – 06 & the photograph of TOC meter (Permissible COD : 250 mg/litre which is equivalent to TOC value of 100 mg/litre) |
|---|-----------------------------------|---|

Table No. 06
TOC Meter Values

| TOC Meter Make: - Xylem WTW | | | |
|-----------------------------|-----|-----|---------|
| Month | Min | Max | Average |
| Oct-19 | 53 | 67 | 60 |
| Nov-19 | 30 | 56 | 43 |
| Dec-19 | 49 | 57 | 53 |
| Jan-20 | 50 | 78 | 64 |
| Feb-20 | 73 | 81 | 77 |
| Mar-20 | 42 | 80 | 61 |

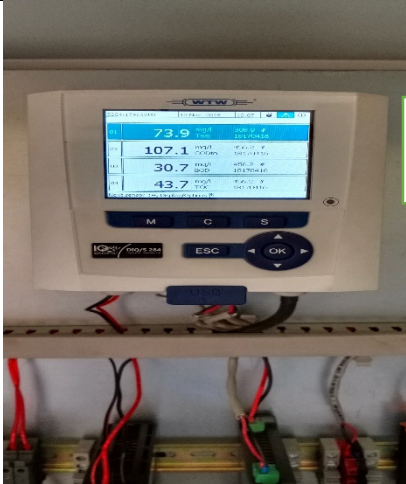


Figure 02: TOC Meter

| | | |
|---|---|---|
| 3 | The project authorities shall install at least 11 multiple effect evaporator (MEE) to achieve higher than 65% recovery of Sodium Sulphate | We have installed 10 nos. of more efficient (less specific steam consumption) 14 stage multiple effect evaporator (MEE) having higher evaporation Capacity in place earlier visualized 11 small MEE’s of 18 m3/hr. Total evaporation is 280 m3/hr. instead 198 m3/hr. |
| 4 | Electrostatic Precipitators (ESP’s) to power plant boiler shall be provided to control particulate matter. | Electrostatic Precipitators (ESP’s) to power plant boiler has provided to control particulate matter as Chemical division have installed CPP. EC has been amended through Chemical division. Pl. refer Annexure-2 |
| | 3-stage condensing system for recovery of CS2 | We have installed 3 stage condensing system with all 4 spinning lines and Caustic scrubber has installed with Acid plant chimney. |
| | Scrubber to Acid plant chimney | |
| | klaus kiln recovery system to recover Sulphur from CS2 plant gases, followed by lime water absorber shall be provided | Klaus kiln recovery system to recover Sulphur from CS2 plant gases installed for achieving > 96% Sulphur recovery efficiency. |
| | Monitoring arrangement shall be provided with the scrubber & condenser vents and shall be monitored monthly. | Monitoring arrangement provided for scrubbers & condenser vents. Following are the details tabulated under Table No. 07 |
| 5 | Table No. 07 | |
| | Testing Details | |
| | Agency: - Unistar Environment and Research Labs Pvt. Ltd. | |
| | Address: - White House, Near GIDC Office, Char Rasta, Vapi-396195, Gujarat, India | |
| | Details of instrument Used for Monitoring: - | |



Figure 02: TOC Meter

| | | | | | | | | | |
|--|--|--|---|--|---|---|---|---|---|
| | Instrument ID : UERL-D/AIR/SMK/01 | | | | | | | | |
| | Instrument Name: - Stack Monitoring Kit, VSS1 | | | | | | | | |
| | Serial No.: - 467 DTJ 15 | | | | | | | | |
| | Calibration Date:- 28/06/2019 | | | | | | | | |
| | Expiry Date: - 27/06/2020 | | | | | | | | |
| | Month | Spg. Aft. Treatment (Line-1 Exhaust Vent-1) | Spg. Plant Aft (Line 1 - Exhaust Vent- 2) | Spg. Plant Aft (Line 2 - Exhaust Vent 1) | Spg. Plant Aft (Line 2 - Exhaust Vent- 2) | Spg. Plant Aft (Line 3 - Exhaust Vent 1) | Spg. Plant Aft (Line 3 - Exhaust Vent- 2) | Spg. Plant Aft (Line 4 - Exhaust Vent 1) | Spg. Plant Aft (Line 4 - Exhaust Vent- 2) |
| | Oct-19 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Nov-19 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Dec-19 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Jan-20 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Feb-20 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Mar-20 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Min | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| | Max | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | <5.0 | < 5.0 | < 5.0 |
| Report shall be submitted to Ministry's regional office, Bhopal, CPCB & GPCB | | | | Reports are submitted to MOEF as Annexure-7 to compliance report every six months. Last compliance report submitted in June-19. | | | | | |
| 6 | The technology employed shall achieve standards notified by the Ministry for the Rayon Industry vide Gazette Notification no. 195, dated 16th Oct-2006, other than CS2. | | | As per Gazette notification, CS2 emission of 125 Kgs/T F is to be met. New control technology using organic solvent based on absorption and desorption to recover CS2 from exhaust gases installed which is helping in achieving CS2 emission level at much lower level. | | | | | |
| | 1. If there are more than one stack existing in the plant, the required height of all stacks shall be on the minimum emission rate in any of the stacks. In other words, all the stacks carrying CS ₂ emission shall be on same height (based on maximum emission rate) | | | We have installed only one stack of 175m based on stack height calculation as per notification. | | | | | |
| | 2. Number of Stacks shall not be increased from the existing number. However the number of stacks may be reduced. The existing stacks may be rebuilt & if stacks are to be relocated condition no. 3 below applies | | | We have installed only one stack of 175m height | | | | | |

| | | |
|--|--|--|
| | 3. Spacing among the stacks (x) at the minimum shall be 3.0 H (in m). If distance, x between two stacks is less than 3.0H (in m), emission shall be considered as single point source & height of both the stacks shall be calculated considering all emission is going through one stack. | Presently we have installed only one stack, in future if we increase, we will follow the instructions. |
| | The Company shall monitor CS ₂ & H ₂ S regularly and submit data on the emission levels to the Ministry and its Regional office at Bhopal, GPCB and CPCB. | CS ₂ & H ₂ S is being monitored regularly. Emission details for Oct'19 to Mar'20 is tabulated in Table No. 8 |

Emission of CS₂ /Ton of Viscose Staple Fibre (VSF):
Monthly Stack Monitoring Details from Unistar refer as Annexure-6

| | Third Party Lab Details | Month & Date of Sample | CS ₂ (Kg/Ton of Fibre) |
|----------|---|--|--------------------------------------|
| | | Consent Value | 50 |
| | | | |
| | Agency: - Unistar Environment & Research lab Pvt. Ltd | Oct-19 | 47.0 |
| | Address: - Near GIDC, Char Rasta, Vapi | Nov-19 | 45.0 |
| | NABL : - NABL Certificate Number TC-7753 | Dec-19 | 47.0 |
| | Details of instrument Used for Monitoring: - Instrument Name: - Stack Monitoring Kit Vss1 Instrument ID: - UERL-D/AIR/SMK/01 Serial No.:- 467 DTJ 15 Calibration Date:- 28.06.2019 Expiry Date: - 27.06.2020 | Jan-20 | 45.0 |
| | | Feb-20 | 40.0 |
| | | Mar-20 | 42.0 |
| | | Min | 40.0 |
| | | Max | 47.0 |
| | | Avg | 44.3 |
| | | | |
| | Provision shall be made for retrofit additional equipment's, if necessary in future | In future if required, company is committed to install additional equipment. At present there is no such requirement. | |
| 7 | The effluent should be treated in ETP having primary & secondary treatment facilities and treated effluent should meet the standards to be prescribed by the GPCB or under E. P. Act-1986 whichever are more stringent | Full Fledged ETP installed, which comprises of Primary, Extended aeration activated sludge process and secondary treatment. Details are tabulated in Table No. 09 | |

Treated effluent quality for the period of Oct-19 to Mar-20 is summarized as under in Table No. 09

Monthly Analysis Report from Unistar refer as Annexure-03

Agency: - Unistar Environment & Research lab Pvt. Ltd

Address: -GIDC, Char Rasta, Vapi

NABL : - NABL Certificate Number TC-7753

Table No.10

| Month & Date of Sampling | FINAL TREATED EFFLUENT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|------------------------|-------------------------------------|--------|-----------------|--------------|----------|--------|-------------|--------|--------|--------|--------|------------------|---------|---------|------------------------|-----------------------|------------|---------|--------|---------|------------------|--------------|----------|------------|--------------|---------------------|-------------------------------------|
| | pH | Temp. | TSS | Oil & Grease | Fluorid e | Sulphide | TKN | Amm. N as N | Copper | Zinc | BOD | COD | Total Res Cl2 | Arsenic | Mercury | Hexavalent Chromium | Trivalent Chromium | Lead | Cadmium | Nickel | Cyanide | Phenolic Comp | Seleniu m | Mangnese | Iron | Vanadi um | Nitrate Nitrogen | Bio Assay Test |
| Unit | - | deg C | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/li t | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/lit | mg/li t | mg/li t | mg/lit | 90%Survival of fish after 96hrs. |
| GPCB limit | 6.0 - 9.0 | Not Exceed more than 35 deg C | 100 | 10 | 15 | 5 | 50 | 50 | 3 | 15 | 100 | 250 | 1 | 0.2 | 0.01 | 0.1 | 2 | 0.1 | 0.05 | 3 | 0.2 | 5 | 0.05 | 2 | 3 | 0.2 | 50 | |
| Oct-19 | 7.24 | 32 | 90 | BDL | 1.10 | BDL | 17.5 | 11.7 | BDL | 1.9 | 75 | 236.5 | 0.9 | BDL | BDL | BDL | 0.10 | BDL | 0.04 | 0.04 | BDL | 0.37 | BDL | BDL | 0.27 | BDL | 1.00 | Complied |
| Nov-19 | 7.60 | 32 | 40 | BDL | 0.96 | BDL | 23.1 | 17.5 | BDL | 1.8 | 81 | 237.0 | BDL | BDL | BDL | BDL | 0.09 | BDL | 0.03 | 0.03 | BDL | 0.32 | BDL | BDL | 0.19 | BDL | 1.60 | Complied |
| Dec-19 | 7.54 | 31 | 58 | BDL | 0.95 | BDL | 7.2 | BDL | BDL | 1.8 | 36 | 124.0 | BDL | BDL | BDL | BDL | 0.14 | BDL | 0.01 | 0.14 | BDL | 1.05 | BDL | BDL | 1.59 | BDL | 11.70 | Complied |
| Jan-20 | 7.18 | 29 | 15 | BDL | 1.06 | BDL | 8.5 | BDL | BDL | 1.8 | 52 | 165.0 | BDL | BDL | BDL | BDL | 0.04 | BDL | 0.03 | 0.13 | BDL | 0.92 | BDL | BDL | 1.67 | BDL | 13.00 | Complied |
| Feb-20 | 7.26 | 29 | 30 | BDL | 1.10 | 0.8 | 22.7 | 17.1 | BDL | 1.7 | 46 | 149.0 | BDL | BDL | BDL | BDL | 0.05 | BDL | 0.04 | 0.13 | BDL | 0.85 | BDL | BDL | 1.54 | BDL | 9.30 | Complied |
| Mar-20 | 7.31 | 30 | 29 | BDL | 1.20 | 0.6 | 25.8 | 18.2 | BDL | 1.6 | 38 | 133.0 | BDL | BDL | BDL | BDL | 0.04 | BDL | 0.03 | 0.13 | BDL | 0.64 | BDL | BDL | 1.43 | BDL | 8.60 | Complied |
| Min | 7.18 | 29.00 | 15.00 | 0.00 | 0.95 | 0.60 | 7.20 | 11.70 | BDL | 1.64 | 36.00 | 124.00 | 0.93 | BDL | BDL | BDL | 0.04 | 0.00 | 0.01 | 0.03 | 0.00 | 0.32 | BDL | BDL | 0.19 | BDL | 1.00 | |
| Max | 7.60 | 32.00 | 90.00 | 0.00 | 1.20 | 0.80 | 25.80 | 18.20 | BDL | 1.88 | 81.00 | 237.00 | 0.93 | BDL | BDL | BDL | 0.14 | 0.00 | 0.04 | 0.14 | 0.00 | 1.05 | BDL | BDL | 1.67 | BDL | 13.00 | |
| Average | 7.36 | 30.50 | 43.67 | ND | 1.06 | ND | 17.47 | 16.13 | BDL | 1.78 | 54.67 | 174.08 | ND | BDL | BDL | BDL | 0.08 | ND | 0.03 | 0.10 | ND | 0.69 | BDL | BDL | 1.11 | BDL | 7.53 | |

Total quantity of effluent should not exceed 60m³/ ton of production. The production shall be regulated to match the permitted discharge quantity by GIDC/GPCB

The quantity of effluent discharged is 24.22 m³ / Ton of Fibre. Against stipulation of 60m³/TF.

Avg. water intake : 13325 m³/day

Effluent discharge : 11242 m³/day (For all 3 units)

Following are the details tabulated in **Table No.10**

| | | <table><tr><th colspan="4">Table No. 10</th></tr><tr><th rowspan="2">Month</th><th colspan="3">Effluent Generation (m3/day)</th></tr><tr><th>Average</th><th>Minimum</th><th>Maximum</th></tr><tr><td>Oct-19</td><td>11051</td><td>6944</td><td>12065</td></tr><tr><td>Nov-19</td><td>10873</td><td>7363</td><td>12755</td></tr><tr><td>Dec-19</td><td>11559</td><td>0</td><td>13708</td></tr><tr><td>Jan-20</td><td>12812</td><td>7559</td><td>13952</td></tr><tr><td>Feb-20</td><td>11910</td><td>8442</td><td>13680</td></tr><tr><td>Mar-20</td><td>9249</td><td>0</td><td>12547</td></tr><tr><td>Avg.</td><td>11242</td><td>-</td><td>-</td></tr></table> | Table No. 10 | | | | Month | Effluent Generation (m3/day) | | | Average | Minimum | Maximum | Oct-19 | 11051 | 6944 | 12065 | Nov-19 | 10873 | 7363 | 12755 | Dec-19 | 11559 | 0 | 13708 | Jan-20 | 12812 | 7559 | 13952 | Feb-20 | 11910 | 8442 | 13680 | Mar-20 | 9249 | 0 | 12547 | Avg. | 11242 | - | - | |
|----------------------------|--|--|---------------|---|----------------------------|-----------|--------------------|------------------------------|---------------|--|----------------------------|-----------|--------------------|-----------|---------------|--|----------------------------|-----------|-------|------|-------|--------|-------|---|-------|--------|-------|------|-------|--------|-------|------|-------|--------|------|---|-------|------|-------|---|---|--|
| Table No. 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Month | Effluent Generation (m3/day) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Average | Minimum | Maximum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct-19 | 11051 | 6944 | 12065 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov-19 | 10873 | 7363 | 12755 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec-19 | 11559 | 0 | 13708 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan-20 | 12812 | 7559 | 13952 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb-20 | 11910 | 8442 | 13680 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar-20 | 9249 | 0 | 12547 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | 11242 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | <p>The project authorities shall produce the copy of agreement with GIDC for discharge of treated wastewater to the Ministry & its Regional office within three months and submit the same to Regional office</p> | <p>Agreement with GIDC for water supply & discharge of treated waste water in GIDC chamber was done. A Copy of same was submitted along with earlier six monthly compliance report to MoEF & CC.</p> <p>Following are the GIDC offer cum allotment letter details;</p> <table><tr><td>1) Letter No.</td><td>GIDC/POJ/MKT/GRASIM/575 Dated 06th December-2006</td></tr><tr><td>Agreement for Water Supply</td><td>15.60 MLD</td></tr><tr><td>Effluent Discharge</td><td>12.48 MLD</td></tr></table> <table><tr><td>2) Letter No.</td><td>GIDC/SE/CG//BRH/1236 Dated 29th December-2016</td></tr><tr><td>Agreement for Water Supply</td><td>25.00 MLD</td></tr><tr><td>Effluent Discharge</td><td>19.40 MLD</td></tr></table> <table><tr><td>3) Letter No.</td><td>GIDC/BRH/WS/494 Dated 3rd.July,2019</td></tr><tr><td>Agreement for Water Supply</td><td>35.00 MLD</td></tr></table> <p>Pl. refer attached Annexure # 1&1A.</p> | 1) Letter No. | GIDC/POJ/MKT/GRASIM/575 Dated 06 th December-2006 | Agreement for Water Supply | 15.60 MLD | Effluent Discharge | 12.48 MLD | 2) Letter No. | GIDC/SE/CG//BRH/1236 Dated 29 th December-2016 | Agreement for Water Supply | 25.00 MLD | Effluent Discharge | 19.40 MLD | 3) Letter No. | GIDC/BRH/WS/494 Dated 3rd.July,2019 | Agreement for Water Supply | 35.00 MLD | | | | | | | | | | | | | | | | | | | | | | | | |
| 1) Letter No. | GIDC/POJ/MKT/GRASIM/575 Dated 06 th December-2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agreement for Water Supply | 15.60 MLD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Effluent Discharge | 12.48 MLD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2) Letter No. | GIDC/SE/CG//BRH/1236 Dated 29 th December-2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agreement for Water Supply | 25.00 MLD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Effluent Discharge | 19.40 MLD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3) Letter No. | GIDC/BRH/WS/494 Dated 3rd.July,2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agreement for Water Supply | 35.00 MLD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>The project authorities shall take up the in-house or through IIT's research studies for further reduction of CS2 emission below 50 Kg/ Ton of production of VSF within three months and submit the same to Regional office</p> | <p>In house research studies done and many steps taken to further reduce the CS2 emission level. Some of the initiatives taken are :</p> <p>1) Control technology using organic solvent based on absorption</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|----|---|--|
| 9 | | <p>and desorption to recover CS₂ from exhaust gases installed</p> <p>2) Natural Gas based CS₂ plant installed in place of conventional charcoal process to avoid CS₂ emission from CS₂ plant</p> <p>Above information is submitted to MOEF through letter, dated 05.11.18 Please refer as Annexure-18</p> |
| | <p>Brief of Technology: -</p> <p>Introduction: - The spinning line is equipped with CS₂ condensation system wherein CS₂ entrapped in Tow during wet spinning process is recovered by vaporizing the same with LP Steam followed by Condensation of CS₂ in series of Condensers using soft water at ambient temperature and chilled water in final condenser. Around 46-50% of CS₂ added in the process can be recovered by this process depending on the ambient temperature. To reduce emission load from stack further technological operations to recover CS₂ from exhaust gases is imperative. We had taken lab scale trials at our Nagda unit using genosorb solvent which is comprises of POLY-ETHYLENE GLYCOL DIALKALINE ETHER (Chemical from Clariant) for adsorption of CS₂ & H₂S.</p> <p>H₂S is stripped off & taken to vent/chimney. CS₂ is stripped and condensed & recovered. The lab scale trials ws successful results with 80% removal of CS₂. Finally semi commercial scale plant was set up in Nagda utilizing 10% of total gases being taken to chimney was taken. After lab & pilot plant trials of six months, it was decided to put 02 nos. of 45,000 Nm³/hr Genosorb commercial scale unit at Vilayat.</p> <p>Process Step:-</p> <ul style="list-style-type: none"> <input type="checkbox"/> Gas coming from the different areas of spinning and Auxiliary section is washed out using cooling water to remove acid mist & to cool the gas <input type="checkbox"/> Washed gas sent to cooler to get the required 25°C of Gas temperature for absorption using chilled water. <input type="checkbox"/> In absorption tower, mainly CS₂ and minor amount of H₂S is absorbed in GENOSORB and remaining gases exhausted through chimney. <input type="checkbox"/> After absorption GENOSORB sent to H₂S stripper column, In this column H₂S gas is stripped out using HOT AIR at 70°C <input type="checkbox"/> CS₂ rich GENESORB sent to CS₂ stripping column, CS₂ is stripped out using LIVE STEAM at 125°C <input type="checkbox"/> Stripped CS₂ is cooled in two stages, in first stage cooled up to 70°C to condensate water & then up to 25°C to condense CS₂. <input type="checkbox"/> Condensed CS₂ is @ 100% pure and sent to CS₂ plant for Storage & re use. | |
| 10 | <p>The industry shall measure ambient air quality for CS₂, and H₂S at the 3 ambient air quality monitoring stations set up in consultation with the GSPCB to ensure CS₂ and H₂S emission not exceed 100 microgram/m³ and 150 microgram/m³</p> | <p>Ambient air quality is being monitored regularly for CS₂ & H₂S emissions, 4 nos. ambient air quality monitoring stations (covering all directions) placed in consultation with the GPCB. CS₂ & H₂S emission are well below the prescribed standards.</p> |
| | <p>Summary of 6 months (Oct-19 – Mar-20) is tabulated below in Table No. 11</p> <p>Monthly Report from Unistar Please refer Annexure No. -08</p> <p>Agency : - Unistar Environment & Research Lab Pvt. Ltd</p> | |

| | | | | | | | | | |
|--|--|------------------|--------------------------------------|--|-----------------|--|-----------------|--------------------------|-----------------|
| | Instrument ID & Name: -1) UERL/AIR/RDS/19 – Respirable Dust Sampler (Calibration Period: - 10.08.2019 – 09.08.2020) 2) UERL/AIR/FPS/22 – Fine Particulate Sampler (Calibration Period: - 10.08.2019 – 09.08.2020) | | | | | | | | |
| | Table No. 11 | | | | | | | | |
| | Month | ETP MCC Room | | ER Office | | Aluminum Chloride plant | | Security Gate (CA Plant) | |
| | | H ₂ S | CS ₂ | H ₂ S | CS ₂ | H ₂ S | CS ₂ | H ₂ S | CS ₂ |
| | Norms --> | 150 | 100 | 150 | 100 | 150 | 100 | 150 | 100 |
| | Oct-19 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Nov-19 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Dec-19 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Jan-20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Feb-20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Mar-20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Min | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Max | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Avg | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 11 | The Solid & Hazardous waste shall be segregated according to its calorific contents and stored separately for treatment and disposal | | | | | Solid / Hazardous waste being categorized as per guideline of GPCB consent, treatment & disposal practice is followed accordingly. We are member of BEIL, Dahej for transportation & disposal of hazardous waste ; Following are the Disposal details tabulated in Table No. 12 | | | |
| | Type of waste | | Category | Treatment /Disposal | | | | | |
| | Chemical sludge from ETP | | 34.3 | Collection, storage, transportation, disposal at Cement Industries/ TSDF-BEIL | | | | | |
| | Used Oil | | 5.1 | Collection, storage, transportation, disposal by selling to registered refiners. | | | | | |
| | Discarded container | | 33.3 | Collection storage, transportation, disposal by selling to vendors after detoxification | | | | | |
| | Discarded bags/liner | | 33.3 | Collection, storage, transportation, disposal by selling to vendors after detoxification | | | | | |
| | Spent catalyst from H2SO4 plant | | 17.2 | Collection, storage, transportation, disposal to TSDF-BEIL | | | | | |
| | Spent catalyst from H2SO4 plant | | 34.2 | Collection, storage, transportation, disposal to TSDF-BEIL | | | | | |
| Please refer Annexure-9 for CCA from GPCB | | | | | | | | | |
| Table No. 12 | | | | | | | | | |
| Month | Chemical sludge-ETP-MT | Used Oil (KL) | Empty barrels/containers/bags/liners | Bio Sludge from ETP | | Spent Catalyst-MT | | Spent Resin-MT | |

| | | | |
|---------|----------|-----|----------------|
| 3 | 2019-20 | 25 | 15,000 Plant |
| 4 | 2020-21 | 25 | 15,000 Plant |
| 5 | 2021-223 | 25 | 15,000 Plant |
| 6 | 2022-23 | 25 | 15,000 Plant |
| Total=> | | 185 | 1,12,500 Plant |

Acacia (*Acacia auriculiformis*), Kadamb (*Neolamarckia cadamba*), Basant Rani (*Tabebuia rosea*), Safeda (*Eucalyptus*), *Bougainvillea spectabilis*, Lawn Plantation and Shrubbery.

The Existing Spices for plantation are Selected by following CPCB guidelines

Proposed Plantation Species: Neem (*Azadirachta indica*), Kasood (*Cassia siamea*), Pine/Junglisaru (*Casuarina equisetifolia*), Orchid tree (*Bauhinia blakeana*), Saptparni (*Alstonia scholaris*), Gulmohar (*Delonix regia*), Rain tree (*Samanea saman*), Shisham (*Dalbergia sissoo*), Bel (*Aegle marmelos*), Arjun tree (*Terminalia arjuna*), Cassia fistula (Amaltas), Yellow Gulmohar (*Peltophorum ferrugineum*), Bottle brush (*Callistemon sp.*), Kadamb (*Neolamarckia cadamba*), Semal/Kapok (*Bombax ceiba*), Jamun (*Syzygium cumini*), Apple blossom tree (*Cassia javanica*), Sausage tree (*Kigelia pinnata*), Basant Rani (*Tabebuia rosea*), Morpankhi (*Thuja occidentalis*), Safeda (*Eucalyptus*), Guh babool (*Acacia farnesiana*), Kaner (*Nerium indicum*), Champa (*Plumeria rubra*), Holy basil (*Ocimum tenuiflorum*), Jarul (*Lagerstroemia speciosa*), *Bougainvillea spectabilis*, Lemon (*Citrus lemon*), Sankuppi (*Clerodendrum inerme*), Lawn Plantation and Shrubbery etc.

Plant species for Odor management : Neem (*Azadirachta indica*), Saptparni (*Alstonia scholaris*), Guh babool (*Acacia farnesiana*), Morpankhi (*Thuja occidentalis*), *Bougainvillea spectabilis*, Lemon (*Citrus lemon*), Kaner (*Nerium indicum*), Mehndi (*Lawsonia inermis*), Champa (*Plumeria rubra*), Holy basil (*Ocimum tenuiflorum*), Tulsi (*Ocimum sanctum*), Sankuppi (*Clerodendrum inerme*), Jasmine tree (*Plumeria alba*), Jarul (*Lagerstroemia speciosa*), Gurhal (*Hibiscus rosa sinensis*), Bunchgrass (*Vetiveria zizanioides*) etc.

Gaseous emission (SO₂ & NO_x) tolerant species: Neem (*Azadirachta indica*), Bel (*Aegle marmelos*), Kasood (*Cassia siamea*), Earleaf Acacia (*Acacia auriculiformis*), Saptparni (*Alstonia scholaris*), Aldu (*Ailanthus excelsa*), Siris (*Albizia lebbek*), Shisham (*Dalbergia sissoo*), Pipal (*Ficus religiosa*), White fig (*Ficus infectoria*), Maulsari (*Mimusops elengi*), Kaner (*Nerium indicum*), Jarul (*Lagerstroemia speciosa*) etc.

Green Belt Development Photographs are as under :-



| | | |
|-----------|---|--|
| 14 | The project proponent shall comply with the environmental protection measures and safeguards recommended in the EIA/EMP | Total project cost was Rs. 1200 Crores as mentioned in EC. As committed in the EIA/EMP, Unit has been allocated capital cost Rs. 170.5 Crores and recurring cost Rs. 15.5 Crores per annum respectively for implementations of environmental pollution control measures as per condition stipulated by the MoEF & CC & state government. Detailed EIA/EMP report is explained below & Capex – Opex Details are tabulated under Table No. 14 |
|-----------|---|--|

| Table No. 14 | | | | | | |
|--|-------------------------------------|---------------|--------------|--------------|--------------|--------------|
| Fund Utilize for environmental Management are under (Rs. In Crore) | | | | | | |
| Sr. No. | Particular | Capex | Opex FY-17 | Opex FY-18 | Opex FY-19 | Opex FY-20 |
| 1 | Effluent Water | 79.00 | 11.50 | 10.56 | 11.00 | 11.00 |
| 2 | Air Pollution Control | 91.00 | 03.50 | 04.00 | 03.30 | 5.17 |
| 3 | Green Belt Development | 00.50 | 00.50 | 00.55 | 01.30 | 0.51 |
| 4 | Waste Management | 01.50 | 00.50 | 00.60 | 01.60 | 3.07 |
| | Total Amount (In Crore)=> | 172.00 | 16.00 | 15.71 | 17.20 | 19.75 |

Environmental monitoring Program : - In order to ensure that the predicted impact levels are within the acceptable limits and to further mitigate the impacts wherever possible from proposed facilities, following monitoring programs are undertaken;

Air Environment: Air quality surveillance program which includes;

1. Monitoring of air quality of all 4 stacks for CS₂, H₂S, PM, SO₂ & NO_x by our Lab as well as 3rd party Lab.
2. Ground level concentration is monitored for CS₂, H₂S, PM, SO₂ & No_x in the impact zone as a part of ambient air monitoring by our Lab & 3rd party Lab.
3. Port holes and sampling facilities are provided in each stack as per CPCB guidelines, periodic performance evaluation of control measures & equipment's are done

Noise Environment: Noise generated sources are regularly monitored, ambient noise level is being monitored on quarterly basis inside & outside of plant area and strictly adhered the Factory Act norms of workroom and ambient levels as per E P Act.

Water Environment: For effective environmental pollution control the following measures are taken;

1. Daily monitoring of treated effluent in our Lab as well as third party monitoring by outside labs.
2. Evaluation of ETP performance is done regularly, based on the results of treated effluent.
3. Treated sewage is 100% used in green belt, sewage quantity is very less as only plant sewage comes to STP.
4. 2 nos. of guard ponds, each of (L: 90 m, B: 60 m, SWD: 6.5m) equivalent to 50,000m³ capacity installed, which is suitable for storage of 48 hrs. treated effluent to meet the emergency situation in discharge of treated effluent through GIDC pipeline

5. Water conservation measures are taken and achieved very less discharge of treated effluent (< 35m³ / Ton of fibre as against 60m³ / Ton of fibre.

Land Environment: Following measures are taken to avoid adverse impacts on biological activities;

1. All precautions are taken to avoid any spillages on ground.
2. A record of Solid & Hazardous waste is maintained & monitored regularly by Env. Cell
3. Waste is categorized based on CC&A by GPCB. Hazardous waste is stored separately and disposed as per GPCB guidelines through online Manifest.
4. Green belt development program is undertaken and planted > 10,000 tree every year which will be continued to cover > 33% area as green belt.

Biological Environment: Following measures are taken to avoid adverse impacts on biological activities;

1. Survival rate of planted trees are closely monitored. New saplings are planted in place of dead saplings as per guideline which is closely monitored by Horticulture department.
2. Past project environmental monitoring has taken up, our plant is commissioned in Apr-2014 and only 3 financial years are completed.

| | | |
|----|---|---|
| 15 | The project authorities shall obtain the membership of TSDF and waste water disposal facility and copy of the same shall be submitted to the GPCB and Ministries regional office at Bhopal within three months. | We have obtained the membership of TSDF and waste water disposal facility and copy of the same has submitted to the GPCB and Ministries regional office at Bhopal regularly with six monthly compliance reports Membership with TSDF for waste disposal, TSDF Name: - Bharuch Enviro Infrastructure Limited, Dahej. Ref : -BEIL/ANK/2019 Membership Qty: - 5000Ton/Annum Membership copy is attached herewith as Annexure-10 Membership copy is attached for waste water disposal through GIDC pipeline, Pl. refer Annexure-1 |
| 16 | Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the factories Act. | 100% employees undergo with occupational health surveillance every 6 month / 12 month depending on exposure. Record is available with Occupational Health Centre. No one is suffering from any occupational health related disease. Details are given for different type of test reports of employees, conducted on Yearly / Six monthly basis in table below in Table No. 15 |

| Table No. 15 | | | | | | |
|--|-----------------|--------------|-------|--------------|----------------|-----------------------------------|
| Spirometry (2019-20) | | | | | | |
| Name of Dept. | Total Employees | FVC (litres) | FEV 1 | FEV 1/ FVC % | PEF Litres/Sec | Conclusion |
| Admin Department (SCM, Purchase, Account, Legal, IT Dept.) | 36 | 2 | 0 | 0 | 1 | Aprox 2.08% deviation from normal |
| % | | 5.56 | 0.00 | 0.00 | 2.78 | |

| | | | | | | |
|---|-----|------|------|------|------|--------------------------------------|
| Process Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC, Civil) | 220 | 3 | 0 | 1 | 3 | Aprox 0.80% is deviation from normal |
| % | | 1.36 | 0.00 | 0.45 | 1.36 | |
| Technical Cell, WCM, Customer Focus, Electrical Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 43 | 0 | 1 | 0 | 1 | Aprox 1.16% is deviation from normal |
| % | | 0.00 | 2.33 | 0.00 | 2.33 | |
| Mechanical Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 39 | 1 | 0 | 0 | 1 | Aprox 2.56% deviation from normal |
| % | | 2.56 | 0.00 | 0.00 | 2.56 | |
| QC & QA Instrumentation Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 23 | 1 | 0 | 1 | 0 | Aprox 2.17% deviation from normal |
| % | | 4.35 | 0.00 | 4.35 | 0.00 | |
| P&A (HR, Security & Services, ER, CSR, HORTICULTURE, Workshop) Dept. | 29 | 0 | 0 | 0 | 2 | Aprox 1.72% deviation from normal |
| % | | 0.00 | 0.00 | 0.00 | 6.90 | |

| Circulatory system (2019-20) | | | | | | Vision (2019-20) | | ENT |
|---|-----------------|-------|------|----------------|-------|------------------|-----------------|------------|
| Employees | Total Employees | Pulse | ECG | Blood Pressure | Hemat | Distant Vision | Color Blindness | Audiometry |
| | | | | | Hb | | | |
| Admin Department (SCM, Purchase, Account, Legal, IT Dept.) | 36 | 1 | 0 | 2 | 0 | 0 | 0 | 1 |
| % | | 2.78 | 0.00 | 5.56 | 0.00 | 0.00 | 0.00 | 2.78 |
| Process Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC, Civil) | 220 | 3.00 | 2.00 | 8.00 | 12.00 | 7.00 | 0.00 | 2 |
| % | | 1.36 | 0.91 | 3.64 | 5.45 | 3.18 | 0.00 | 0.91 |
| Technical Cell, WCM, Customer Focus, Electrical Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 43 | 1.00 | 1.00 | 3.00 | 5.00 | 5.00 | 0.00 | 1 |
| % | | 2.33 | 2.33 | 6.98 | 11.63 | 11.63 | 0.00 | 2.33 |
| Mechanical Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 39 | 3.00 | 1.00 | 4.00 | 4.00 | 3.00 | 0.00 | 1 |
| % | | 7.69 | 2.56 | 10.26 | 10.26 | 7.69 | 0.00 | 2.56 |
| QC & QA Instrumentation Dept. (Auxiliary, viscose, spinning, CS2/Acid, WTP/ETP/STP, EC) | 23 | 2.00 | 1.00 | 3.00 | 2.00 | 3.00 | 0.00 | 1 |
| % | | 8.70 | 4.35 | 13.04 | 8.70 | 13.04 | 0.00 | 4.35 |
| P&A (HR, Security & Services, ER, CSR, HORTICULTURE, Workshop) Dept. | 29 | 2.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0 |
| % | | 6.90 | 0.00 | 6.90 | 3.45 | 0.00 | 0.00 | 0.00 |

| | | |
|----|---|--|
| 17 | The project authorities shall take up all out efforts to protect the water bodies and biodiversity around the plant. | Regular monitoring of Water & Air quality done by our Lab and 3rd party. There is only one water body namely “Bhooki Khadi” which is approximately 500 m from boundary wall. Water from this is being used for irrigation and cattle feeding. |
| | A monitoring mechanism for water / air quality , production & crop pattern around the plant shall be adopted and comparative status shall be reported annually to the Ministries Regional office, GPCB & CPCB | Water, Air quality & production is being monitored regularly and compared with base line. Same is being reported to Ministries Regional office on six monthly basis and submitting reports to GPCB on monthly basis for the same. Data are tabulated Under Table No.16 & refer monthly data from Unistar Test Report Annexure – 11 |
| | Agency: - Unistar Environment & Research Lab Address: - Near GIDC Office Char Rasta, Vapi-396195 | NABL Accreditation: - NABL Certificate Number TC-7754 |

| Table No. 16 | | | | | | | | | | |
|--------------|-----------|-------------|-----------|---------|-------------------|-------------|-------------|-----------|---------|-------------------|
| Parameters | Up Stream | | | | | Down Stream | | | | |
| | pH | Temperature | Turbidity | Nitrate | Phenolic Compound | pH | Temperature | Turbidity | Nitrate | Phenolic Compound |
| UOM | | Deg C | NTU | PPM | PPM | | Deg C | NTU | PPM | PPM |
| Base Line | NP | NP | NP | NP | NP | NP | NP | NP | NP | NP |
| Oct-19 | 7.23 | 31 | 10 | 0.2 | BDL(MDL:0.01) | 8.07 | 30 | 10 | 0.2 | BDL(MDL:0.01) |
| Nov-19 | 8.04 | 32 | 1 | 0.1 | BDL(MDL:0.01) | 8.18 | 32 | 1 | 0.1 | BDL(MDL:0.01) |
| Dec-19 | 8.47 | 31 | 5 | 0.4 | BDL(MDL:0.01) | 7.91 | 31 | 1 | 0.6 | BDL(MDL:0.01) |
| Jan-20 | 8.13 | 29 | 1 | 1.3 | BDL(MDL:0.01) | 8.17 | 29 | 1 | 1.2 | BDL(MDL:0.01) |
| Feb-20 | 8.65 | 30 | 1 | 0.9 | BDL(MDL:0.01) | 8.76 | 30 | 1 | 0.4 | BDL(MDL:0.01) |
| Mar-20 | 8.15 | 30 | 1 | 1 | BDL(MDL:0.01) | 8.29 | 30 | 0.1 | 0.7 | BDL |
| Min | 7.23 | 29 | 1 | 0.1 | BDL | 7.91 | 29 | 0.1 | 0.1 | BDL |
| Max | 8.65 | 32 | 10 | 1.3 | BDL | 8.76 | 32 | 10 | 1.2 | BDL |
| Avg | 8.11 | 30.50 | 3.17 | 0.65 | BDL | 8.23 | 30.33 | 2.35 | 0.53 | BDL |

There are 4 nos. of Ambient air quality monitoring stations covering all directions in nearby villages. Monthly monitoring is being done on monthly by NABL accredited Lab. The Ambient Air quality results for the period of Oct-19 to Mar-20 is tabulated as under Table No. 17

Monthly Report from Unistar Refer as Annexure-12

Agency : - Unistar Environment & Research Lab Pvt. Ltd

Instrument ID & Name: -

1) Respirable Dust Sampler –UERL/AIR/RDS/ 02(Calibration Period: - 10.08.2019 – 09.08.2020)

2) Fine Particulate Sampler - UERL/AIR/FPS/08– (Calibration Period: - 10.08.2019 – 09.08.2020)

Table No. 17

| Month | SARNAR | | | | | | DEROL | | | | | | ARGAMA | | | | | | VILAYAT | | | | | |
|------------------------|-------------|--------------|-----------|-----------|------------|------------|-------------|--------------|-----------|-----------|------------|------------|-------------|--------------|-----------|-----------|------------|------------|-------------|--------------|-----------|-----------|------------|------------|
| | SPM PM10 | SPM PM2.5 | SO2 | NO2 | H2S | CS2 | SPM PM10 | SPM PM2.5 | SO2 | NO2 | H2S | CS2 | SPM PM10 | SPM PM2.5 | SO2 | NO2 | H2S | CS2 | SPM PM10 | SPM PM2.5 | SO2 | NO2 | H2S | CS2 |
| | µg/m3 | | | | | | µg/m3 | | | | | | µg/m3 | | | | | | µg/m3 | | | | | |
| Norms -> | 100 | 60 | 80 | 80 | 150 | 100 | 100 | 60 | 80 | 80 | 150 | 100 | 100 | 60 | 80 | 80 | 150 | 100 | 100 | 60 | 80 | 80 | 150 | 100 |
| Oct-19 | 65 | 26 | 14 | 15 | BDL | BDL | 67 | 23 | 15 | 17 | BDL | BDL | 63 | 21 | 13 | 16 | BDL | BDL | 66 | 25 | 15 | 19 | BDL | BDL |
| Nov-19 | 79 | 30 | 15 | 19 | BDL | BDL | 76 | 26 | 17 | 22 | BDL | BDL | 77 | 28 | 18 | 20 | BDL | BDL | 80 | 33 | 16 | 19 | BDL | BDL |
| Dec-19 | 82 | 29 | 16 | 19 | BDL | BDL | 72 | 24 | 15 | 19 | BDL | BDL | 73 | 24 | 16 | 21 | BDL | BDL | 84 | 29 | 17 | 20 | BDL | BDL |
| Jan-20 | 73 | 25 | 16 | 18 | BDL | BDL | 78 | 29 | 18 | 22 | BDL | BDL | 70 | 28 | 16 | 21 | BDL | BDL | 76 | 30 | 17 | 21 | BDL | BDL |
| Feb-20 | 76 | 25 | 18 | 21 | BDL | BDL | 83 | 31 | 20 | 24 | BDL | BDL | 73 | 28 | 18 | 20 | BDL | BDL | 79 | 31 | 20 | 23 | BDL | BDL |
| Mar-20 | 78 | 28 | 21 | 26 | BDL | BDL | 80 | 31 | 18 | 23 | BDL | BDL | 76 | 26 | 20 | 24 | BDL | BDL | 73 | 29 | 22 | 25 | BDL | BDL |
| Min | 65 | 25 | 14 | 15 | BDL | BDL | 67 | 23 | 15 | 17 | BDL | BDL | 63 | 21 | 13 | 16 | BDL | BDL | 66 | 25 | 15 | 19 | BDL | BDL |
| Max | 82 | 30 | 21 | 26 | BDL | BDL | 83 | 31 | 20 | 24 | BDL | BDL | 77 | 28 | 20 | 24 | BDL | BDL | 84 | 33 | 22 | 25 | BDL | BDL |
| Average | 76 | 27 | 17 | 20 | BDL | BDL | 76 | 27 | 17 | 21 | BDL | BDL | 72 | 26 | 17 | 20 | BDL | BDL | 76 | 30 | 18 | 21 | BDL | BDL |

B. General Condition: -

| | | |
|------|--|---|
| i) | The project authorities must strictly adhere to the stipulations of the SPCB/State Government or any statutory body | All stipulations made by GPCB are strictly complied. Pl. refer detailed CCA Report tabulated under Annexure-A |
| ii) | No expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry to access the adequacy of conditions imposed and to add additional environmental protection measures required, if any. | We have received EC for expansion of VSF plant capacity from 255500 TPA to 438000TPA along with expansion of CS2 & H2SO4 plants on 17 th Oct-19, also for setting up Solvent Spun Cellulosic fibre plant for 100 T/d and CPP of 55 MW. We have implemented capacity expansion under de-bottlenecking of VSF plant. |
| iii) | The gaseous emission (SO2, Nox, H2S & CS2) and PM along with RSPM levels from various process units shall confirm to the standards prescribed by the concerned authorities from time to time. | Gaseous emission is monitored regularly and results confirm to the standards specified by both GPCB and CPCB The lab results are summarized for the period Oct-19 to Mar-20 as under Table No.18 & Table No. 19 Monthly Report from Unistar Refer as Annexure-6 . |

| | Third Party Lab Details | Month & Date of Sample | CS2 (Kg/Ton of Fibre) |
|--|---|------------------------|--------------------------|
| | | Consent Value | 50 |
| | Agency: - Unistar Environment & Research lab Pvt. Ltd | Oct-19 | 47.0 |
| | Address: - Near GIDC, Char Rasta, Vapi | Nov-19 | 45.0 |
| | NABL : - NABL Certificate Number TC-7753 | Dec-19 | 47.0 |
| | Details of instrument Used for Monitoring: - Instrument Name: - Stack Monitoring Kit Vss1 Instrument ID: - UERL-D/AIR/SMK/01 Serial No.:- 467 DTJ 15 Calibration Date:- 28.06.2019 Expiry Date: - 27.06.2020 | Jan-20 | 45.0 |
| | | Feb-20 | 40.0 |
| | | Mar-20 | 42.0 |
| | | Min | 40.0 |
| | | Max | 47.0 |
| | | Avg | 44.3 |
| | | | |

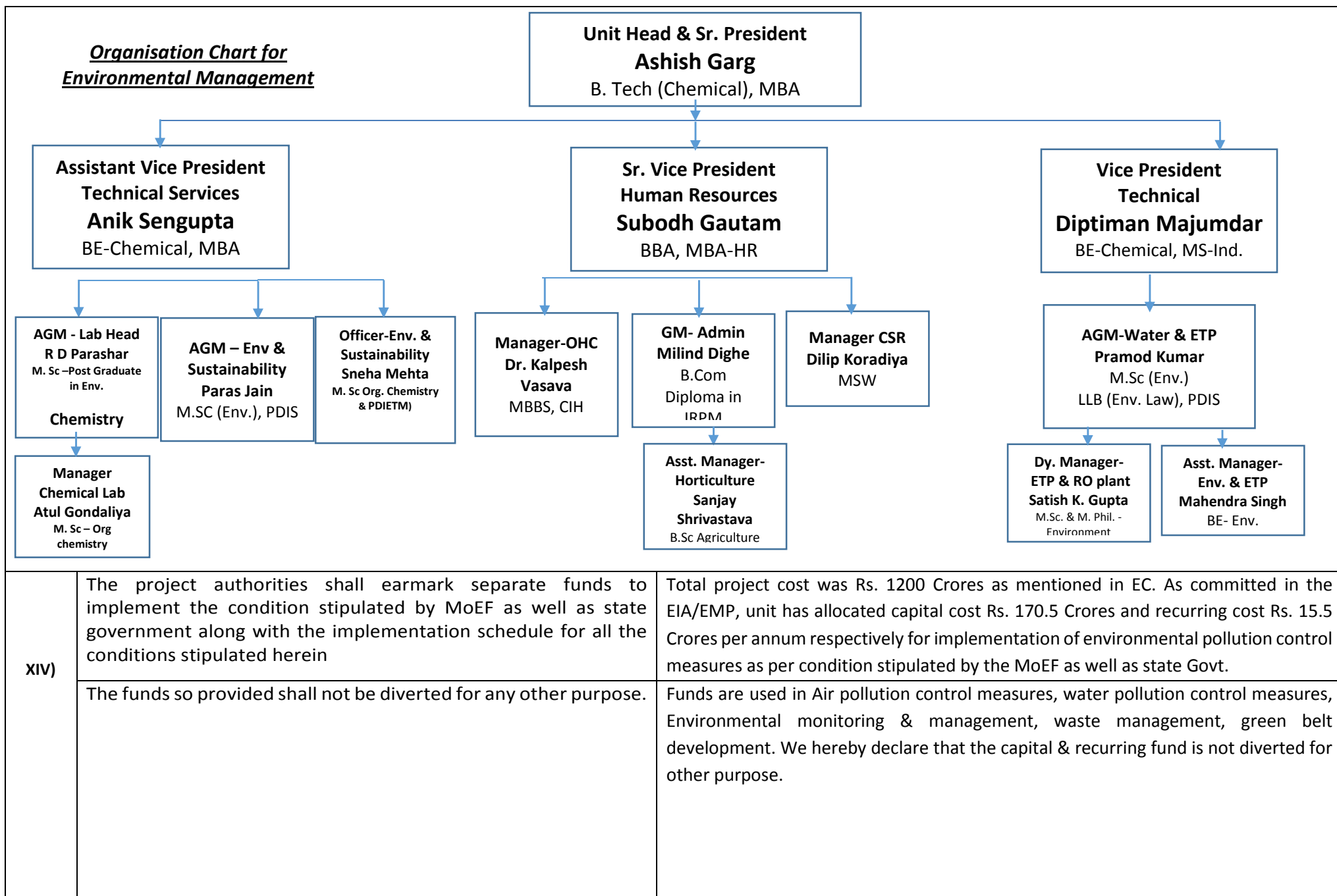
| | | |
|-------|---|--|
| v) | Dedicated scrubbers and stack of appropriate height as per CPCB guidelines shall be provided to control the emissions from various stacks/vents. | Dedicated scrubbers and stack of appropriate height as per CPCB guidelines are provided to control the emissions from various stacks/vents. Rayon plant – 175m stack (As per stack height formula $H(m) = 11Q^{0.41-3V_s \cdot D/U}$ Q- CS2 emission rate (kgs/hr) Vs-Stack Velocity (m/sec) D- Diameter of Stack, U- Annual Avg Wind speed at top of stack (m/sec) H2SO4 plant – 50m stack CS2 Plant – 100m stack provided |
| | The scrubber water shall be sent to ETP for further treatment | The scrubber water is routed through ETP. |
| vi) | All the chemicals / solvents storage tank shall be under negative pressure to avoid any leakages. Breather valve, N2 blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapor losses. All liquid raw material shall be stored in storage tanks and drums. | All storage tanks are suitably designed to avoid leakages for storage under atmospheric conditions. CS2 is stored under water due its volatile nature. Dykes re provided at all chemical storage area as per guidelines to arrest spillages / leaks with Emergency response plan for any such event. |
| vii) | The company shall undertake following waste minimization measures; | |
| | - Metering & control of quantities of active ingredients to minimize waste | Metering & measurement system is in place. Reduction in wastage is also reflected in specific consumption of chemicals |
| | - Reuse of by-products from the process as raw material or as RM substitution in other processes | Sodium Sulphate is bye-product. Though it is not used in our process, it is being utilized by detergent, glass, & paper industries |
| | - Use of automated filling to minimize spillages | Chemicals such as Caustic, Sodium hypochlorite, Sulphuric acid, Carbon disulphide is transported through pipelines. Sodium sulphate is bagged through automatic bagging M/c. |
| | - Use of "closed feed" system into batch reactors | Not Applicable as ours is continuous process. |
| | - Venting equipment through vapor recovery system | There is one CS2 recovery system/machine (total 4 nos.) wherein CS2 is being recovered by condensation. |
| viii) | Fugitive emissions in the work zone environment, product & | Fugitive emissions in work zone environment & storage area are monitored by |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|--|--|------|--------|------|------|------|----------------|------|--------|------|------|--|-----------------|------|--------|------|------|------|-------------|------|--------|------|------|-----|
| | raw materials storage area shall be regularly monitored. The emissions shall confirm to the limits imposed by SPCB/ CPCB | our Lab on monthly basis and are well within stipulated norms. Lab data are tabulated as Table No. 20 | | | | | | | | | | | | | | | | | | | | | | | |
| | Agency: - Environmental Monitoring Lab Address: -Internal Lab Details of instrument Used for Monitoring: - Inst. Calibration done by : - Respo Products Instrument Name: - Toxirae III (for H2S Measurement) & For CS2 measurement following IS 5182 (Part 20) : 1982 method Serial No.:- I348982 Calibration Date:- 08.01.2020 Expiry Date: - 08.01.2021 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Table No. 20 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Date | Pulp Warehouse | | | | | | Central Stores | | | | | | Fibre warehouse | | | | | | Salt Godown | | | | | |
| | | Entry | | Middle | | Last | | Entry | | Middle | | Last | | Entry | | Middle | | Last | | Entry | | Middle | | Last | |
| | | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S | CS2 | H2S |
| | | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | Ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| | Oct-19 | 0.16 | Tr | 0.27 | Tr | 0.30 | Tr | 0.36 | Tr | 0.32 | Tr | 0.26 | Tr | 0.70 | Tr | 0.65 | Tr | 0.80 | Tr | 0.85 | Tr | 0.95 | Tr | 0.76 | Tr |
| | Nov-19 | 0.30 | Tr | 0.31 | Tr | 0.36 | Tr | 0.27 | Tr | 0.37 | Tr | 0.27 | Tr | 0.72 | Tr | 0.73 | Tr | 0.91 | Tr | 0.88 | Tr | 0.91 | Tr | 0.88 | Tr |
| | Dec-19 | 0.31 | Tr | 0.32 | Tr | 0.35 | Tr | 0.30 | Tr | 0.31 | Tr | 0.27 | Tr | 0.55 | Tr | 0.58 | Tr | 0.57 | Tr | 0.95 | Tr | 1.29 | Tr | 0.80 | Tr |
| | Jan-20 | 0.22 | Tr | 0.25 | Tr | 0.33 | Tr | 0.21 | Tr | 0.28 | Tr | 0.26 | Tr | 0.59 | Tr | 0.71 | Tr | 0.75 | Tr | 0.88 | Tr | 0.79 | Tr | 0.77 | Tr |
| Feb-20 | 0.17 | Tr | 0.25 | Tr | 0.30 | Tr | 0.30 | Tr | 0.30 | Tr | 0.27 | Tr | 0.62 | Tr | 0.59 | Tr | 0.77 | Tr | 0.76 | Tr | 0.91 | Tr | 0.80 | Tr | |
| Mar-20 | 0.30 | Tr | 0.32 | Tr | 0.33 | Tr | 0.25 | Tr | 0.30 | Tr | 0.33 | Tr | 0.71 | Tr | 0.79 | Tr | 0.72 | Tr | 0.91 | Tr | 0.88 | Tr | 0.83 | Tr | |
| IX) | The project authorities shall strictly comply with the rules and guidelines under manufacture, storage and import of hazardous chemicals Rules 1989 as amended up to date and Hazardous waste (management & handling) Rules 1989 as amended time to time. Authorization from the GPCB shall be obtained for collection, storage, treatment and disposal of hazardous wastes | | | | | | | | | | | | Deputy Controller of Explosive from M/s PESO (PETROLEUM & Explosives Safety Organization), has granted license for storage of 60 KL light diesel oil and storage of 10 KL HSD at 2 location in plant area for DG sets. We have valid factory license from DISH. Copy of factory & Petroleum License copy attached as Annexure -13 Hazardous waste Rules 2000 is fully complied as per the consent stipulated norm and Unit is complying all the waste defined in CC& A. Hazardous waste is being disposed to M/ 5. BEIL, Dahej TSDF facility and annual hazardous waste disposal details are submitted on GPCB XGN online site and waste disposal online report is attached as Annexure-14. | | | | | | | | | | | | |

| | | Unit has obtained CC&A # AWH 104228 for collection, storage, treatment and disposal of hazardous waste from GPCB dated 27th Nov 2019 which is valid up to 23rd Mar 2024. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|--------------|--|--|--|--|--|--|--|--|--|--|--|--|------|--------|--|--------|--|--------|--|--------|--|--------|--|--------|--|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|----|---------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| x) | The overall noise levels in and around the plant area shall be kept well within the standard by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall confirm to the standards prescribed under the Environment (P) Act, 1986 Rules 1989 viz. 75 dB (day time and 70 dB (night time) | Following measures taken to control noise level: <ul style="list-style-type: none">- Provision of Silencers- Acoustic Enclosures- Rubber pads for rotating equipment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The Noise level (dB) at workroom for last 6 months is tabulated as under Table No. 21: Calibration Period: - 18.01.20 – 18.01.21 dB Meter: - Make: - Lutron Sr.No.348982 Certification Agency: - Tools MRO Safety / Address: - 806 – 808, Abhinandan Royale, Opp. Rajhans Olympia, Bhatar Road, Surat – 395007, Gujarat, India Reference Standard : - Sound Level Calibrator, Sr. No. 3421624, Calibration Valid Up to : 22.07.2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><th colspan="13">Table No. 21</th></tr><tr><th rowspan="2">Area</th><th colspan="2">Oct-19</th><th colspan="2">Nov-19</th><th colspan="2">Dec-19</th><th colspan="2">Jan-20</th><th colspan="2">Feb-20</th><th colspan="2">Mar-20</th></tr><tr><th>Day Time</th><th>Night Time</th><th>Day Time</th><th>Night Time</th><th>Day Time</th><th>Night Time</th><th>Day Time</th><th>Night Time</th><th>Day Time</th><th>Night Time</th><th>Day Time</th><th>Night Time</th></tr><tr><td>Norms=></td><td>75</td><td>70</td><td>75</td><td>70</td><td>75</td><td>70</td><td>75</td><td>70</td><td>75</td><td>70</td><td>75</td><td>70</td></tr><tr><td>Main Gate</td><td>62</td><td>59</td><td>64</td><td>51</td><td>59</td><td>51</td><td>60</td><td>55</td><td>58</td><td>56</td><td>59</td><td>52</td></tr><tr><td>Material Gate</td><td>67</td><td>61</td><td>67</td><td>53</td><td>60</td><td>49</td><td>63</td><td>51</td><td>60</td><td>57</td><td>60</td><td>58</td></tr><tr><td>OHC</td><td>65</td><td>62</td><td>63</td><td>62</td><td>58</td><td>64</td><td>59</td><td>63</td><td>60</td><td>59</td><td>59</td><td>55</td></tr><tr><td>Derol</td><td>66</td><td>54</td><td>65</td><td>56</td><td>56</td><td>54</td><td>67</td><td>62</td><td>65</td><td>64</td><td>61</td><td>60</td></tr><tr><td>Vilayat</td><td>63</td><td>54</td><td>60</td><td>56</td><td>64</td><td>52</td><td>65</td><td>56</td><td>62</td><td>60</td><td>62</td><td>56</td></tr><tr><td>Sarnar</td><td>66</td><td>54</td><td>56</td><td>55</td><td>62</td><td>56</td><td>65</td><td>55</td><td>66</td><td>62</td><td>64</td><td>58</td></tr><tr><td>Argama</td><td>68</td><td>59</td><td>57</td><td>54</td><td>64</td><td>59</td><td>66</td><td>64</td><td>63</td><td>61</td><td>65</td><td>60</td></tr><tr><td>Min</td><td>62</td><td>54</td><td>56</td><td>51</td><td>56</td><td>49</td><td>59</td><td>51</td><td>58</td><td>56</td><td>59</td><td>52</td></tr><tr><td>Max</td><td>68</td><td>62</td><td>67</td><td>62</td><td>64</td><td>64</td><td>67</td><td>64</td><td>66</td><td>64</td><td>65</td><td>60</td></tr><tr><td>Avg</td><td>65</td><td>58</td><td>62</td><td>55</td><td>60</td><td>55</td><td>64</td><td>58</td><td>62</td><td>60</td><td>61</td><td>57</td></tr></table> | | | | | | | | | | | | Table No. 21 | | | | | | | | | | | | | Area | Oct-19 | | Nov-19 | | Dec-19 | | Jan-20 | | Feb-20 | | Mar-20 | | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Norms=> | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | Main Gate | 62 | 59 | 64 | 51 | 59 | 51 | 60 | 55 | 58 | 56 | 59 | 52 | Material Gate | 67 | 61 | 67 | 53 | 60 | 49 | 63 | 51 | 60 | 57 | 60 | 58 | OHC | 65 | 62 | 63 | 62 | 58 | 64 | 59 | 63 | 60 | 59 | 59 | 55 | Derol | 66 | 54 | 65 | 56 | 56 | 54 | 67 | 62 | 65 | 64 | 61 | 60 | Vilayat | 63 | 54 | 60 | 56 | 64 | 52 | 65 | 56 | 62 | 60 | 62 | 56 | Sarnar | 66 | 54 | 56 | 55 | 62 | 56 | 65 | 55 | 66 | 62 | 64 | 58 | Argama | 68 | 59 | 57 | 54 | 64 | 59 | 66 | 64 | 63 | 61 | 65 | 60 | Min | 62 | 54 | 56 | 51 | 56 | 49 | 59 | 51 | 58 | 56 | 59 | 52 | Max | 68 | 62 | 67 | 62 | 64 | 64 | 67 | 64 | 66 | 64 | 65 | 60 | Avg | 65 | 58 | 62 | 55 | 60 | 55 | 64 | 58 | 62 | 60 | 61 | 57 |
| Table No. 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Area | Oct-19 | | Nov-19 | | Dec-19 | | Jan-20 | | Feb-20 | | Mar-20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Norms=> | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | 75 | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Main Gate | 62 | 59 | 64 | 51 | 59 | 51 | 60 | 55 | 58 | 56 | 59 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Material Gate | 67 | 61 | 67 | 53 | 60 | 49 | 63 | 51 | 60 | 57 | 60 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OHC | 65 | 62 | 63 | 62 | 58 | 64 | 59 | 63 | 60 | 59 | 59 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Derol | 66 | 54 | 65 | 56 | 56 | 54 | 67 | 62 | 65 | 64 | 61 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vilayat | 63 | 54 | 60 | 56 | 64 | 52 | 65 | 56 | 62 | 60 | 62 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sarnar | 66 | 54 | 56 | 55 | 62 | 56 | 65 | 55 | 66 | 62 | 64 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Argama | 68 | 59 | 57 | 54 | 64 | 59 | 66 | 64 | 63 | 61 | 65 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Min | 62 | 54 | 56 | 51 | 56 | 49 | 59 | 51 | 58 | 56 | 59 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max | 68 | 62 | 67 | 62 | 64 | 64 | 67 | 64 | 66 | 64 | 65 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg | 65 | 58 | 62 | 55 | 60 | 55 | 64 | 58 | 62 | 60 | 61 | 57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| XI) | The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water | Survey has been done for roof top rain water harvesting. Job is being taken up in few locations. Pl. refer Annexure-15 In addition to survey we have provided roof top water recharging facility at 7 locations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|------|---|--|
| | | inside the plant, Please find below photograph for your reference. |
| xii) | The company shall undertake eco-development measures including community welfare measures in the project area for the overall improvement of the environment. | We have been undertaking various community development measures in and around 25 Villages and 63,550 nos. of beneficiaries covered in FY'20. Unit has proposed Eco development plan yearly basis through CSR activities and submitting CSR activities update in Annual Environment Audit Report to GPCB on yearly basis. |
| | The eco development plan should be submitted to SPCB within three months of receipt of this letter for approval | Eco development measures including community welfare being done under CSR initiatives as attached in Annexure-16 & its expenditure details are in below Table No. 22 |

| | | Table No. 22 | | | | |
|----------------|---|---|---|--|-----------------------------------|--|
| Financial Year | | Average Net Profit (in Crore) of the company (As per 135(S) company’s Act) | Allocate CSR Amount (2%) | Actual Spent in CSR (Amount in Crore) | % Spent CSR against Net Profit | |
| 2015-2016 | | 791 | 15.82 | 15.05 | | |
| 2016-2017 | | 790 | 15.80 | 18.06 | | |
| 2017-2018 | | 1107 | 22.14 | 29.84 | | |
| 2018-2019 | | 1699 | 33.97 | 47.14 | | |
| 2019 -2020 | | Report under Finalization | | | | |
| Total=> | | 4387 | 87.74 | 110.09 | 2.51% | |
| XIII) | A separate Environment Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and monitoring functions. The details of the Cell shall be submitted to MoEF regional officer prior to commissioning of the plant | | We have personnel within Environment Management/ Engineering, Chemical, botany & water resources and also from Process & Engineering. Pl. refer below Organization chart. | | | |



| | | Fund Utilize for environmental Management are under (Rs. In Crore) | | | | | | | |
|------|--|--|------------------------|-------------------|--|---------------------------|------------|--|------------|
| | | Sr. No. | Particular | Capex | Opex FY-17 | Opex FY-18 | Opex FY-19 | | Opex FY-20 |
| | | 1 | Effluent Water | 79.00 | 11.50 | 10.56 | 11.00 | | 11.00 |
| | | 2 | Air Pollution Control | 91.00 | 03.50 | 04.00 | 03.30 | | 5.17 |
| | | 3 | Green Belt Development | 00.50 | 00.50 | 00.55 | 01.30 | | 0.51 |
| | | 4 | Waste Management | 01.50 | 00.50 | 00.60 | 01.60 | | 3.07 |
| | | Total Amount (In Crore)=> | | 172.00 | 16.00 | 15.71 | 17.20 | | 19.75 |
| XV) | The implementation of the project vis-a-vis environmental action plans shall be monitored by the concerned regional office of MoEF/ GPCB/ CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the company. | | | | Six monthly compliance status report is being regularly submitted, pl. refer attached Annexure-7 of last report as acknowledgement, dated 21/05/2018. | | | | |
| | | | | Compliance Period | | Date of Report Submission | | | |
| | | | | Apr-16 to Sep-16 | | 10.11.2016 | | | |
| | | | | Oct-16 to Mar-17 | | 24.04.2017 | | | |
| | | | | Apr-17 to Sep-17 | | 14.06.2017 | | | |
| | | | | Oct-17 to Mar-18 | | 21.05.2018 | | | |
| | | | | Apr-18 to Sep-18 | | 12.09.2018 | | | |
| | | | | Sep-18 to Mar-19 | | 14.06.2019 | | | |
| | | | | Oct-19 to Mar-20 | | 01.06.2019 | | | |
| XVI) | The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at website of MoEF http://envfor.nic.in . This shall 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 shall be forwarded to the concerned regional office of the Ministry. | | | | EC issued on 20.12.2007, received on 24.12.2007 following are the advertisement details. | | | | |
| | Name of Paper : - Indian Express Date of Issue: - 28.12.2007 In : - English language | | | | Name of Paper : - Gujarati Loksatta Date of Issue: - 28.12.2007 In : - Gujarati language | | | | |

GRASIM
ADITYA BIRLA GROUP

Grasim Cellulosic
Plot No.-1, GIDC Vilayat
Dist: Bharuch, (Gujarat)

Environment Clearance by MOEF

Vide letter No. F.No.J-11011/463/2007-IA II (I), dated 20-12-07, which was received on 24-12-2007, the Ministry of Environment and Forests (Govt. Of India) has accorded Environmental Clearance for the Green Field Viscose Staple Fibre (127750 TPA) and Captive Power Plant (25 MW).

Copies of the clearance letter are available with GPCB and may also be seen at website of the Ministry of Environment and Forests at <http://envfor.nic.in>

Grasim Industries Limited
Registered Office: P.O.-Birlagram, Nagda-456 331 Dist.-Ujjain (MP)

GRASIM
ADITYA BIRLA GROUP

ગ્રાસીમ સેલ્યુલોઝીક

પ્લોટ નં.-૧, જુઆઈડીસી વિલાયત, ડી.ભરૂચ, (ગુજરાત)

MOEF દ્વારા પર્યાવરણીય પરવાનગી

પર્યાવરણ તથા વનમંત્રાલયે (ભારત સરકાર) વિલાયતમાં VSF પ્લાન્ટ ૧૨૭૭૫૦ ટન પ્રતિ વર્ષ અને પાવરનું ઉત્પાદન ૨૫ મેગાવોટના ગ્રીન ફીલ્ડ પ્રોજેક્ટની પરવાનગી તારીખ ૨૦-૧૨-૨૦૦૭ના પત્ર નં. એફ. નં. જે-૧૧૦૧૧/૪૬૩/૨૦૦૭- I એ II (I) દ્વારા આપેલ છે.

પરવાનગી પત્રની નકલ જીપીસીબી અને પર્યાવરણ તથા વન મંત્રાલયની વેબસાઈટ <http://envfor.nic.in> પર પ્રાપ્ય છે.

ગ્રાસીમ ઈન્ડસ્ટ્રીઝ લીમીટેડ
રજીસ્ટર્ડ ઓફીસ: પી.ઓ.બિરલાગ્રામ, નાગદા-૪૫૬ ૩૩૧ જી. ઉજ્જૈન (એમ.પી.)

EC Amendment on 15.01.2018 & following are the advertisement details.

Name of Paper : - Times of India

Date of Issue: - 19.01.2018

In : - English language

TIMES CITY

Grasim Industries Limited
Environment Clearance by MOEF

Vide letter No. F.No.J-11011/463/2007-IA II (I), dated 20-12-07, which was received on 24-12-2007, the Ministry of Environment and Forests (Govt. Of India) has accorded Environmental Clearance for the Green Field Viscose Staple Fibre (127750 TPA) and Captive Power Plant (25 MW).

Copies of the clearance letter are available with GPCB and may also be seen at website of the Ministry of Environment and Forests at <http://envfor.nic.in>

Grasim Industries Limited
Registered Office: P.O.-Birlagram, Nagda-456 331 Dist.-Ujjain (MP)

Name of Paper : - Gujarat Samachar

Date of Issue: - 19.01.2018

In : - Gujarati language

ગુજરાત સમાચાર (વડોદરા આવૃત્તિ) ૩

દાહોદમાં સ્માર્ટ સિટિ યોજનામાં સિટિ બસ સુવિધા ચાલુ કરાશે

દાહોદમાં સ્માર્ટ સિટિ યોજનામાં સિટિ બસ સુવિધા ચાલુ કરાશે. આ સુવિધાના અંતર્ગત દાહોદમાં સિટિ બસ સુવિધા ચાલુ કરાશે. આ સુવિધાના અંતર્ગત દાહોદમાં સિટિ બસ સુવિધા ચાલુ કરાશે.

નમદા જિલ્લામાં નોન-કનેક્ટીવીટીની સમસ્યા પ્રવાસના વિકાસમાં અવરોધ

નમદા જિલ્લામાં નોન-કનેક્ટીવીટીની સમસ્યા પ્રવાસના વિકાસમાં અવરોધ. આ સમસ્યાના અંતર્ગત નમદા જિલ્લામાં નોન-કનેક્ટીવીટીની સમસ્યા પ્રવાસના વિકાસમાં અવરોધ.

| | | |
|-------|---|---|
| XVII) | The project authorities shall inform the Regional Office as well as Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of the start of the project | <p>We have submitted the same in last six monthly EC compliance report & BSE – NSE report to MoEF & CC, Bhopal. Pl. Refer Annexure-7 for EC compliance report & for BSE-NSE refer Annexure-17.</p> <p>Project / plant activities are as under;</p> <ul style="list-style-type: none"> (1) EC received on 20th Dec-07, (2) Civil & other const. work started in Jun-2011. (3) 1st line commissioned in Mar-2014. (4) All 4 lines commissioned by Jan-2015. |
| 10. | The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory | Noted & will abide |
| 11. | The Ministry reserves the rights to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions. | -NA to PP |
| 12. | The above conditions will be enforced, inter-alia under the provision of the Water (Prevention & control of pollution) Act-1977, the Air (Prevention & control of pollution) Act-1981, the Environment (Protection) Act-1986, Hazardous waste (Management & Handling) Rules-2003 and the Public Liability Insurance Act-1991 along with their amendments and rules. | <p>-We are following terms & conditions GPCB CC&A compliance. (Report attached as Annexure).</p> |

Compliance Status Report for “Environmental Clearance” Accorded by the MoEF

**For
Grasim Cellulosic Division (GCD), Vilayat Project**

Monitoring of Ambient Air Quality, Noise Levels & Surface water quality

Ambient Air Quality:

The scenario of existing Ambient Air Quality in the study area has been assessed through a network of 06 Ambient Air Quality locations which are established in and around the plant premises. The monitoring stations are established based on the consultation with the Regional office of Gujarat Pollution Control Board, Bharuch.

Third party NABL & GPCB accredited laboratory has been entrusted for carrying out Environmental monitoring, analysis & reporting of environmental parameters at locations designated within and around plant premises.

Pre- calibrated Fine dust samplers have been used for carrying out ambient air quality monitoring in line with provisions of National Ambient Air Quality Standards (NAAQS). The parameters monitored are PM10, PM 2.5, Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) & Carbon mono oxide (CO).

Noise Environment:

Noise level being monitored in Ambient & Work zone area at different Locations once in a quarter. The noise levels at each location were recorded for 24 hours, using integrated sound level meter.

Water Quality:

The existing status of water quality for surface water was assessed by collecting the water samples from nearby Bhookhi Khadi for upstream & downstream. Portable water from Plant & Labor Camp is also analyzed. The overall water quality parameters have been found to be below the stipulated permissible limits.

Compliance Status Report for “Environmental Clearance” Accorded by the MoEF

For Grasim Cellulosic Division (GCD), Vilayat Project

Green belt development

Green Belt Development:

A green belt is being developed along the plant boundary, along the roads & other available open space, using native species avenue plantation as per the CPCB guidelines for curbing emission and providing aesthetic look.

'> 40,000 trees covering an area of 25 Hact, with survival rate of 80 % have already been planted till date. A nursery for growing the saplings, being used for plantation purposes, has also been established inside the plant premises.

Criteria used for selection of species for greenbelt:

- Fast growing
- Thick canopy cover
- Perennial & evergreen
- Large leaf area index
- High sink potential
- Efficient in absorbing pollutants without affecting their growth
- Suitable for the local seasons

Plantation Species:

Neem (*Azadirachta indica*), Kasood (*Cassia siamea*), Pine/Junglisaru (*Casuarina equisetifolia*), Orchid tree (*Bauhinia blakeana*), Gulmohar (*Delonix regia*), Rain tree (*Samanea saman*), Yellow Gulmohar (*Peltophorum ferrugineum*), Bottle brush (*Callistemon sp.*), Earleaf Acacia (*Acacia auriculiformis*), Kadamb (*Neolamarckia cadamba*), Basant Rani (*Tabebuia rosea*), Safeda (*Eucalyptus*), *Bougainvillea spectabilis*, Lawn Plantation and Shrubbery.

Compliance Status Report for “Environmental Clearance” Accorded by the MoEF

For

Grasim Cellulosic Division (GCD), Vilayat Project

Green belt development

Plant species for Odor management;

Neem (*Azadirachta indica*), Saptparni (*Alstonia scholaris*), Guh babool (*Acacia farnesiana*), Morpankhi (*Thuja occidentalis*), Bougainvillea (*Bougainvillea spectabilis*), Lemon (*Citrus lemon*), Kaner (*Nerium indicum*), Mehndi (*Lawsonia inermis*), Champa (*Plumeria rubra*), Holy basil (*Ocimum tenuiflorum*), Tulsi (*Ocimum sanctum*), Sankuppi (*Clerodendrum inerme*), Jasmine tree (*Plumeria alba*), Jarul (*Lagerstroemia speciosa*), Gurhal (*Hibiscus rosa sinensis*), Bunchgrass (*Vetiveria zizanioides*) etc.

Gaseous emission (SO₂ & NO_x) tolerant species:

Neem (*Azadirachta indica*), Bel (*Aegle marmelos*), Kasood (*Cassia siamea*), Earleaf Acacia (*Acacia auriculiformis*), Saptparni (*Alstonia scholaris*), Aldu (*Ailanthus excelsa*), Siris (*Albizia lebbeck*), Shisham (*Dalbergia sissoo*), Pipal (*Ficus religiosa*), White fig (*Ficus infectoria*), Maulsari (*Mimusops elengi*), Kaner (*Nerium indicum*), Jarul (*Lagerstroemia speciosa*) etc.