



Dated: 29.10.2020

The Advisor,  
Ministry of Environment, Forest and Climate Change  
Regional office, Western Region  
"Kendriya Paryavaran Bhavan"  
Link Road No.3, Ravishankar Nagar  
Bhopal-462016 (M.P)

**Subject: Half Yearly Compliance Report of Environmental Clearance Compliance Report for period of "April-20 to September-20"**

Dear Sir,

In view of above subject matter, Here, we are submitting the hard copy as well as soft copy of half yearly Environmental Clearance Compliance report along with copy of EC-2018, No. J. 11011/320/2006-IA II (I) dtd. 22.02.2018 for the report period from "April-20 to September-20".

Hope, the same is in order.

Yours Faithfully,  
(For Birla Cellulosic)

Dharmesh Patel  
DH- Environment

Encl. :

1. EC Copy
2. EC-2018 Compliance report (April-20 to September-20)

CC To:

1. **GPCB Regional office** - Gujarat pollution control board, Plot No. 1501, GIDC, Ankleshwar
2. **GPCB Head office** - Gujarat pollution control board, Paryavaran Bhavan, CHH Road, Sector 10A, Gandhinagar, Gujarat 382010



Birla Cellulose  
Fibres from nature

Grasim Industries Limited  
Unit - Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.  
Dist. Bharuch (Gujarat) - 394 120 INDIA  
CIN : L17124MP1947PLC000410

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Regd. Office : P.O. Birlagram, Nagda (MP) - 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : www.grasim.com

**F.No. J-11011/320/2016-IA II (B)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(IA-II Division)

Indira Paryavaran Bhawan  
Jorbagh Road, New Delhi - 3  
Dated: 22<sup>nd</sup> February, 2018

To,

M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd)  
Birladham, Village Kharach,  
Taluka Hansot,  
District Bharuch (Gujarat)

**Sub: Expansion of Viscose Staple Fibre Unit and Coal based CPP by M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd) at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat) - Environmental Clearance - reg.**

**Ref.: Online proposal no. IA/GJ/IND2/59092/2016 dated 18<sup>th</sup> September, 2017**

Sir,

This has reference to your online proposal no. IA/GJ/IND2/59092/2016 dated 18<sup>th</sup> September, 2017 for environmental clearance to the above project, along with the documents including Form-1, Terms of Reference (ToR), EIA/ EMP report containing the Public hearing proceedings/details.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for Environmental Clearance to the project 'Expansion of Viscose Staple Fibre Unit from 1,27,750 to 2,33,600 TPA and Coal based CPP from 25 MW to 45 MW' by M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd) in a total area of 242.81 ha, at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat). The details of existing and proposed products are as under: -

S.No.	Product /Unit	Existing Capacity	Additional Capacity	Total capacity after expansion
1.	Viscose Staple Fibre	127750 TPA	105850 TPA (Debottlenecking: 14600; New Machine: 91250)	233600 TPA
2.	Captive Power Plant	25 MW	20 MW	45 MW

The other products (intermediates/raw materials) presently manufactured include Sulphuric Acid (146000 TPA), Carbon Disulphide (21600 TPA) and Sodium Sulphate (96000 TPA). The Solvent spun cellulosic fibre unit of capacity 109500 TPA and coal based CPP of 71 MW are yet to be commissioned.

3. Existing plant area is 242.81 ha and no additional land shall be required for proposed expansion project. It is proposed to develop greenbelt in an area of 80 ha, thus covering an area of 33% of total project area. Presently, 70 ha area has been developed under greenbelt. Greenbelt planned for 10 ha in next three years. As per Form-1, there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc within 10 km from the project site. Kim river is flowing at 0.5 km in the South.



4. The estimated project cost is Rs.1800 crores (debottlenecking: Rs.12 crores & new machines: Rs.1788 crores). Total capital cost earmarked for pollution control measures is Rs.90 crores and the recurring cost (operation and maintenance) shall be about Rs.11 crores per annum. It has been proposed to allocate Rs.45 crores (debottlenecking: Rs.0.3 Crores, new machines: Rs.44.7 crores) @ 2.5% towards Enterprise Social Commitment.

5. Total fresh water requirement after the proposed expansion will be 22,286 cum/day (existing - 18600 cum/day, additional - 3686 cum/day) to be sourced through from Kim River. Narmada Water Resources Water Supply and Kalpsar Department of the State Government of Gujarat, has already made an allocation for 7 MGD of water from Kim river to meet the total water requirement.

Total effluent generation would be reduced from the present of 11580 cum/day to 11535 cum/day, which is proposed to be treated in the ETP of capacity 24000 cum/day. Treated effluent is to be discharged into Kim Estuary through 23 km long pipeline falling in CRZ area. The unit has already obtained the CRZ clearance from the Ministry vide letter dated 17<sup>th</sup> January, 2007 for the said pipeline. The domestic effluent of 1500 KLD shall be treated in the STP and then recycled for greenbelt development.

6. Total power requirement after expansion shall be 45 MW. Existing requirement of 25 MW is being met through Captive Thermal Power Plant. After expansion total requirement shall be met from Captive Thermal Power Plant.

Existing unit has 2x100 & 1x120 TPH coal fired boiler. Electrostatics Precipitators with a stack of height of 100 m will be installed for controlling the Particulate emissions (within prescribed norms) for proposed 3x100 TPH coal fired boilers respectively.

7. Details of process emissions along with the control measures are as under:

Emissions	Source	Management Measures
CS <sub>2</sub>	VSF Plant-spinning	<ul style="list-style-type: none"> <li>• CS<sub>2</sub> Recovery System (46.55% recovery).</li> <li>• Powerful Exhaust System for spinning off gases (CS<sub>2</sub> and H<sub>2</sub>S)</li> <li>• Air dilution with adequate stack height.</li> <li>• Shutters for spinning machine.</li> </ul>
	CS <sub>2</sub> Plant	<ul style="list-style-type: none"> <li>• Oil Scrubbing system for recovery of CS<sub>2</sub></li> <li>• Alkali Scrubber</li> <li>• Klaus kiln for recovery of sulphur</li> <li>• Dust extraction cum Ventury Scrubbing system for Furnaces</li> </ul>
SO <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub> Plant	<ul style="list-style-type: none"> <li>• Alkali scrubber</li> </ul>
	CPP boiler	<ul style="list-style-type: none"> <li>• Lime dozing in boiler</li> <li>• Adequate stack height (as per CPCB guidelines).</li> </ul>
Acid Mist	H <sub>2</sub> SO <sub>4</sub> Plant	<ul style="list-style-type: none"> <li>• Mist eliminator</li> </ul>
PM	CPP boiler	<ul style="list-style-type: none"> <li>• ESPs</li> </ul>
Fugitive Emission	CPP-handling & Storage	<ul style="list-style-type: none"> <li>• Covered storage yard to store coal at the plant site.</li> <li>• Silos to store fly ash at the plant site.</li> <li>• Transportation of Fly ash through closed tankers / bulkers.</li> <li>• Dust collection system to control dust emission.</li> <li>• Water sprinkling to reduce dust generation.</li> <li>• Greenbelt / plantation done along the plant boundary to attenuate air pollution.</li> </ul>

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Emissions	Source	Management Measures
	CS <sub>2</sub> Plant-Sulphur handling	<ul style="list-style-type: none"> <li>Covered storage yard for storage of sulphur.</li> <li>Sulphur melting in closed system</li> </ul>

8. Details of solid/hazardous waste generation and its management are as under:

Plant Unit	Waste	Treatment / Disposal
Acid Plant	Sulphur Filter Residue	TSDF
	Spent Catalyst (V <sub>2</sub> O <sub>5</sub> )	
ETP	ETP Inorganic Sludge (Gypsum)	Sold to cement industries
Plant Maintenance-Different sections	Oil soaked Cotton Waste & cotton waste	TSDF
	Used Oil	Sent to Authorized Recycler
	Used Resin	Sent to TSDF for disposal
STP	STP Sludge	Used as manure in greenbelt development/ plantation
Proposed CPP	Fly Ash	Will be supplied to Brick manufacturers, Cement industries

9. The project/activity is covered under category A of item 5(d) 'Manmade fibres manufacturing Rayon' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

10. The ToR for the project was granted by Ministry vide letter dated 13<sup>th</sup> February, 2017 and the public hearing was conducted by the SPCB on 30<sup>th</sup> August, 2017.

11. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 31<sup>st</sup> meeting held during 23-24 November, 2017. The project proponent and their accredited consultant M/s J.M. EnviroNet Pvt Ltd, presented the EIA / EMP report as per the ToR. The Committee found the EIA / EMP report as satisfactory and complying with the ToR. The Committee has recommended the proposal for grant of environmental clearance.

12. Based on the proposal submitted by the project proponent and subsequent recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate change hereby accords environmental clearance to the project '**Expansion of Viscose Staple Fibre Unit from 1,27,750 to 2,33,600 TPA and Coal based CPP from 25 MW to 45 MW**' by M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd) in a total area of 242.81 ha, at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat), under the provisions of EIA Notification, 2006, subject to the compliance of terms and conditions as below:-

- Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- Total fresh water requirement shall not exceed 22,286 KLD proposed to be met from Kim River water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.

*SN*



- (c) Total effluent discharge after treatment shall not exceed 11535 cum/day to be discharged to the Kim Estuary through 23 km long pipeline. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- (d) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (e) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.
- (f) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers (2x100 & 1x120 TPH) to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (g) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (h) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- (i) Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- (j) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- (k) The company shall undertake waste minimization measures as below:-
- (i) Metering and control of quantities of active ingredients to minimize waste.
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (iii) Use of automated filling to minimize spillage.
  - (iv) Use of Close Feed system into batch reactors.
  - (v) Venting equipment through vapour recovery system.
  - (vi) Use of high pressure hoses for equipment cleaning to reduce wastewater generation.
- (l) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (m) All the commitments made regarding issues raised during the public hearing/consultation meeting held on 30<sup>th</sup> August, 2017 shall be satisfactorily implemented.



- (n) At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (o) The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- (p) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (q) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (r) Continuous online (24X7) monitoring system for stack emissions and the effluent, shall be installed for measurement of flow/discharge and the pollutants concentration, and the emission and effluent monitoring data to be transmitted to the CPCB and SPCB server as per the directions of CPCB in this regard.
- (s) Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.
- (t) The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply

**12.1** The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-

- (i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or any other statutory authority.
- (ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- (iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be complied with
- (v) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).



- (vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
- (vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- (viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.
- (ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
- (x) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (xiv) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional offices of MoEF&CC by e-mail.
- (xv) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <http://moef.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.



13. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

14. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

15. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

  
22/2/2018  
(S. K. Srivastava)  
Scientist E

**Copy to: -**

1. The Secretary, Forests & Environment department, Government of Gujarat, Sachivalaya, Gandhinagar (Gujarat)
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal - 462016 (Madhya Pradesh)
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Gujarat Pollution Control Board, 'Parishram', Mahavir Society, Shanala Road, Morbi (Gujarat)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, New Delhi
6. Guard File/Monitoring File/Record File

  
22/2/2018  
(S. K. Srivastava)  
Scientist E

**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
and**

**Coal based CPP from 25 MW to 45 MW'**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

**Name of Project** : Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA and Coal based CPP from 25 MW to 45 MW

**Environment Clearance letter no. & Date** : F.No.J-11011/320/2016-IA II (I) DATED 22.02.2018

**Address for Correspondence** : M/s. Birla Cellulosic (A Unit of Grasim Industries Ltd.)  
Birladham, Village: Kharach, Kosamba (R.S.),  
Tehsil: Hansot, Bharuch (Gujrat) – 394120

**Duration/Reporting period** : April-20 to Sept-20

S.No.	Compliance Conditions by MoEF & CC	Action taken by Birla Cellulosic
1.	Based on the proposal submitted by the project proponent and subsequent recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project <i>'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA and Coal based CPP from 25 MW to 45 MW'</i> by M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd) in a total area of 242.81 ha, at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat), under the provisions of EIA Notification, 2006, subject to the compliance of term and conditions as below:-	o <b><u>Noted &amp; shall be complied.</u></b>
(a)	Consent to Establish/operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	o <b><u>Shall be complied.</u></b> o According to market scenario, In first phase, we have increase the production capacity upto 390 TPD (350 Existing+40 Debottlenecking) and In second phase, capacity enhanced upto 430 TPD as against 640 TPD (233600 TPA) as mentioned in EC. o CCA-Amendment for production increase up to 430 TPD received on 29.11.2019 having GPCB Consent order No. AWH-104181 valid upto 11.04.2024.

**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
and**

**Coal based CPP from 25 MW to 45 MW'**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

(b)	Total fresh water requirement shall not exceed 22,286 KLD proposed to be met from Kim River water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.	<ul style="list-style-type: none"><li>o <b><u>Noted &amp; Complied.</u></b></li><li>o An agreement with Irrigation Department has been made for water withdrawal @ 19,000 M3/day.</li><li>o A Summary of water Consumption for the reporting period is given below:<table><tr><th>Month</th><th>Quantity (M3)</th></tr><tr><td>April-20</td><td>241556</td></tr><tr><td>May-20</td><td>427912</td></tr><tr><td>June-20</td><td>477660</td></tr><tr><td>July-20</td><td>472716</td></tr><tr><td>Aug-20</td><td>467866</td></tr><tr><td>Sept-20</td><td>496131</td></tr><tr><td>Total</td><td>2583841</td></tr><tr><td>Average (M3/Day)</td><td>14119</td></tr></table></li><li>o The Half- yearly average water Consumption is 14119 M3/day, which is less than the quantity mentioned in Agreement.</li></ul>	Month	Quantity (M3)	April-20	241556	May-20	427912	June-20	477660	July-20	472716	Aug-20	467866	Sept-20	496131	Total	2583841	Average (M3/Day)	14119
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(c)	Total effluent discharge after treatment shall not exceed 11535 cum/day to be discharged to the Kim Estuary through 23 km long pipeline.	<ul style="list-style-type: none"><li>o <b><u>Being complied.</u></b></li><li>o A Summary of treated effluent for the reporting period is given below:<table><tr><th>Month</th><th>Quantity (M3/Day)</th></tr><tr><td>April-20</td><td>218188</td></tr><tr><td>May-20</td><td>269045</td></tr><tr><td>June-20</td><td>264983</td></tr><tr><td>July-20</td><td>280361</td></tr><tr><td>Aug-20</td><td>209597</td></tr><tr><td>Sept-20</td><td>261780</td></tr><tr><td>Total</td><td>1503954</td></tr><tr><td>Average (M3/Day)</td><td>8218</td></tr></table></li><li>o A separate underground pipeline for discharging the treated effluent in the estuary of Kim River has been installed as approved by GPCB. The pipeline passes through 8 Nos. of villages and 213 private farm lands, and we have 174 ROUs with the land owners. The disposal point was suggested by NIO, Goa.</li></ul>	Month	Quantity (M3/Day)	April-20	218188	May-20	269045	June-20	264983	July-20	280361	Aug-20	209597	Sept-20	261780	Total	1503954	Average (M3/Day)	8218
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**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
and**

**Coal based CPP from 25 MW to 45 MW'**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

The effluent discharge shall confirm to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.

○ A Summary of treated effluent for the reporting period is given below:

Para.	Unit	Std.	Max.	Min.	Avg.
pH	-	7.5	8.36	7.7	8
Temp.	°C	40	31	29	30
COD	mg/l	250	198	170	184
BOD	mg/l	100	40	28	34
Amm. N	mg/l	50	13.8	8.3	11.1
Zinc	mg/l	10	0.72	0.22	0.47
Color	Unit	100	50	30	40
SS	mg/l	100	42	19	30.5

○ A Summary of treated Domestic sewage for the reporting period is given below:

Parameter	Unit	Std	Max.	Min.	Avg.
TSS	mg/l	<30	28	12	20
BOD	mg/l	<20	18	13	15.5
Resi. Chlorine	mg/l	Min 0.5	0.8	0.6	0.7
COD	mg/l	-	84	65	74.5
Nitrogen	mg/l	-	7.6	4.5	6.05
Fecal coliform	mg/l	-	640	350	495
pH	-	-	7.6	7.34	7.47

○ A full-fledged effluent treatment plant comprising of primary treatment of neutralization, settling facility and secondary treatment of biological system based on extended aeration activated sludge process has been installed. The waste water from the plant is treated in this well-established ETP.

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**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

		<ul style="list-style-type: none"><li>○ Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly monitoring of The waste water from the plant and township is/ treated in the well-established ETP and STP, as per the monitoring conducted by their team.</li><li>○ The results are well within the prescribed norms as per consent condition.</li><li>○ A full-fledged in-house laboratory is established to monitor the parameters round the clock. The quality of treated effluent is also monitored by NABL accredited Laboratory on monthly basis.</li><li>○ The Sewage water from the plant and township is treated in the well-established STP and recycled.</li></ul>																																										
(d)	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	<ul style="list-style-type: none"><li>○ <b><u>Noted &amp; shall be complied.</u></b></li><li>○ CCA-Amendment (including authorization for the Hazardous and Other Wastes) for production increase up to 430 TPD received on 29.11.2019 having GPCB Consent order No. AWH-104181 valid upto 11.04.2024.</li></ul>																																										
(e)	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608 (E) dated 21 <sup>st</sup> July, 2010 and amended from time to time shall be followed.	<ul style="list-style-type: none"><li>○ <b><u>Not applicable.</u></b></li><li>○ We are engaged in manufacturing of Viscose Staple Fiber.</li></ul>																																										
(f)	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers (2x100 & 1x120 TPH) to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Unit has installed online 3 nos. of AAQMS system in plant premises with the consultation with GPCB officers and 3 other AAQMS system installed at down wind direction area and regularly checking the parameters of CS<sub>2</sub>, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.</li><li>○ A Summary of Ambient Air quality results for the reporting period is given below:</li></ul> <table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM<sub>10</sub></td><td>µg/m<sup>3</sup></td><td>100</td><td>58.09</td><td>52.02</td><td>55.06</td></tr><tr><td>PM<sub>2.5</sub></td><td>µg/m<sup>3</sup></td><td>60</td><td>40.87</td><td>34.18</td><td>37.53</td></tr><tr><td>SO<sub>2</sub></td><td>µg/m<sup>3</sup></td><td>80</td><td>17.50</td><td>12.55</td><td>12.44</td></tr><tr><td>NO<sub>x</sub></td><td>µg/m<sup>3</sup></td><td>80</td><td>36.92</td><td>27.89</td><td>32.41</td></tr><tr><td>CS<sub>2</sub></td><td>µg/m<sup>3</sup></td><td>100</td><td>20.33</td><td>12.51</td><td>14.83</td></tr><tr><td>H<sub>2</sub>S</td><td>µg/m<sup>3</sup></td><td>150</td><td>23.19</td><td>11.10</td><td>17.15</td></tr></table>	Para.	Unit	Std.	Max.	Min.	Avg.	PM <sub>10</sub>	µg/m <sup>3</sup>	100	58.09	52.02	55.06	PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	40.87	34.18	37.53	SO <sub>2</sub>	µg/m <sup>3</sup>	80	17.50	12.55	12.44	NO <sub>x</sub>	µg/m <sup>3</sup>	80	36.92	27.89	32.41	CS <sub>2</sub>	µg/m <sup>3</sup>	100	20.33	12.51	14.83	H <sub>2</sub> S	µg/m <sup>3</sup>	150	23.19	11.10	17.15
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**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
and**

**Coal based CPP from 25 MW to 45 MW'**

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		<ul style="list-style-type: none"><li>○ Unit has installed lime injection systems at coal feeders to control sulphur emission from boilers (2x100 &amp; 1x120 TPH) within permissible limits.</li><li>○ Unit has installed ESP to control particulate emissions within permissible limits.</li><li>○ Unit has installed Online monitoring system for SO2, NOx, and PM for monitoring the flue gas emissions from Power Plant from the stack attached with Boiler, connected with GPCB/CPCB server &amp; transmitting data 24*7*365.</li><li>○ A Summary of Flue gas emission for the reporting period is given below:</li></ul> <table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM</td><td>mg/ Nm3</td><td>100/50</td><td>52.80</td><td>37.94</td><td>45.37</td></tr><tr><td>SO2</td><td>Mg/Nm3</td><td>600</td><td>311</td><td>228</td><td>269.50</td></tr><tr><td>NOx</td><td>Mg/Nm3</td><td>600</td><td>117</td><td>84.25</td><td>100.63</td></tr></table>	Para.	Unit	Std.	Max.	Min.	Avg.	PM	mg/ Nm3	100/50	52.80	37.94	45.37	SO2	Mg/Nm3	600	311	228	269.50	NOx	Mg/Nm3	600	117	84.25	100.63
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(g)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Process effluent/any wastewater is not allowed to mix with storm water.</li></ul>																								
(h)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Hazardous chemicals are stored in tanks, tank farms, drums, carboys etc. Flame arresters are provided on tank farm and solvent transfer through pumps.</li></ul>																								
(i)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Viscose staple fibre is the main product. Hence, there is no organic residue and spent carbon generating from our plant.</li><li>○ Generated ETP sludge is provided to cement manufacturers as stipulated in CCA.</li></ul>																								
(j)	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li></ul>																								

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(k)	<p>The company shall undertake waste minimization measures as below:-</p> <ol style="list-style-type: none"> <li>Metering and control of quantities of active ingredients to minimize waste.</li> <li>Reuse of by-products from the process as raw material substitutes in other processes.</li> <li>Use of automated filling to minimize spillage.</li> <li>Use of Close Feed system into batch reactors.</li> <li>Venting equipment through vapor recovery system.</li> <li>Use of high pressure hoses for equipment clearing to reduce wastewater generation.</li> </ol>	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ The unit has undertaken waste minimization measures and will continue exploring measures to minimize at possible extent. To minimize quantity of waste, the unit has explored techniques and implemented some operational changes.</li> <li>○ Few initiatives taken for waste minimization. <ul style="list-style-type: none"> <li>✓ ETP Waste is sold to cement units for co-processing activities.</li> <li>✓ Mass/volume flow meters installed for Active ingredients i.e. CS<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, NaOH etc dosing to minimize waste.</li> <li>✓ Atomization for Raw material feeding and dosing is done for minimizing of spillage and leakages.</li> <li>✓ Salt recovery plant is installed.</li> <li>✓ Sweeping and mopping machine has been procured for floor cleaning activities instead of floor washing to reduce the waste water generation</li> <li>✓ By-products from the process are reused as raw material substitutes in other processes.</li> <li>✓ Automated filling &amp; packing m/c are installed to minimize spillage and also closed feed system is used for the continuous process reactors.</li> <li>✓ Vapor recovery systems installed to recover Raw material and water which is reused in process.</li> <li>✓ For reduction of wastewater generation, High pressure jets are used for equipment clearing.</li> <li>✓ Vapor condensate water is recycled through RO to minimize waste water generation.</li> </ul> </li> </ul>
(l)	<p>The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.</p>	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ Green belt has been developed in the campus along the boundary wall and open spaces. Totally 1,85,000 trees have been planted in the premises in such a way that density of plantation is 1000 trees per acre and green belt of 30 meters width has been developed.</li> <li>○ As per the directives of DoEF, we have also planted Mangrove in 100 Ha. at Raniyo Island spending to Rs. 20.00 Lacs.</li> </ul>
(m)	<p>All the commitments made regarding issues raised during the public hearing/consultation</p>	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ All the commitments made regarding issues raised during the public hearing have been implemented satisfactorily.</li> </ul>

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	meeting held on 30 <sup>th</sup> August, 2017 shall be satisfactorily implemented.	
(n)	At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ Unit is going for production increase quantity phase wise and prorata basis 2.5 % of the total project cost has been allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan has been prepared and submitted to the Ministry's Regional Office.</li> </ul>
(o)	The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Proper arrangements for the control of noise from drilling activity have been taken care off.</li> <li>○ D.G Sets are provided with proper acoustic enclosures and adequate stack height.</li> </ul>
(p)	The unit shall make the arrangements for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ During manufacturing process in material handling the unit has made all the arrangements for protection of possible fire hazards and the fire fighting systems are as per the norms.</li> </ul>
(q)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Awareness programs are being conducted on health by CMO and by ABG Emergency Code Red.</li> <li>○ First aid training is being arranged on periodic interval, which covers all categories of employees, workmen.</li> <li>○ Medical check-up is being done six monthly, for those employees who engaged in handling hazardous substances at work place area.</li> <li>○ All the Employees are covered under Health Survey</li> <li>○ Medical records of employees and contract workers are maintained online and individual person can see the read only data for current and past health record for himself only from any computer in Unit.</li> </ul>
(r)	Continuous online (24x7) monitoring system for stack emissions and the effluent, shall be installed for measurement of flow/discharge and the pollutants concentration, and the emission and the effluent monitoring data to be transmitted to the CPCB and SPCB server as per the directions of CPCB in this regard.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ For effluent monitoring;</li> <li>○ Online TOC Meter, Shimadzu, Japan has been installed and this is connected to the GPCB online server.</li> <li>○ For Stack Monitoring;</li> <li>○ Online monitor is provided for SO<sub>2</sub>, NO<sub>x</sub>, and PM for monitoring the emissions from Power Plant.</li> <li>○ Online stack monitoring system at CPP is provided &amp; connected with GPCB/CPCB server.</li> <li>○ Online stack monitoring systems are installed with Rayon and CS<sub>2</sub> plant stack And SO<sub>2</sub> analyzer also installed at Acid plant stack.</li> </ul>

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(s)	Storage of raw materials, coal etc. shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Individual storage yard, coal yard have been identified by unit for storage of raw material.</li> <li>o EC amendment has been obtained for specific condition, which mentioned that Raw material storage shall not exceed 30 days at any point of time.</li> </ul>
(t)	The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Unit has already replaced energy source as LED based for lighting purpose in plant as well as colony area.</li> <li>o Unit is in progress to use renewable energy at plant site to meet the requirement of a minimum of 10-20% of the total power requirement for the industrial operations through hybrid non-conventional energy source.</li> </ul>
12.1	The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:	-
(i)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and/or any other statutory authority.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Unit is in compliance for the conditions and standard stipulated in consolidated consent and authorization issued by GPCB.</li> </ul>
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess adequacy of the conditions imposed and to add additional environmental protection measures required, if any.	<ul style="list-style-type: none"> <li>o <b><u>Noted.</u></b></li> <li>o No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.</li> </ul>
(iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations each is installed in upward and downward direction as well as where maximum ground level concentrations are anticipated.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Unit has installed online 3 nos. of AAQMS system in plant premises with the consultation with GPCB officers and 3 other AAQMS system installed at down wind direction area and regularly checking the parameters of CS<sub>2</sub>, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.</li> </ul>
(iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> </ul>

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	No. 826(E) dated 16 <sup>th</sup> November, 2009 shall be complied with.	
(v)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 viz. 75 dBA (day time) and 70 dBA (night time). The ambient noise levels shall conform to the standards prescribed under the Environment (P) Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	<ul style="list-style-type: none"> <li>o <b><u>Being Complied.</u></b></li> <li>o Quarterly monitoring the noise level in and around the plant area being conducted.</li> <li>o A Summary of noise level monitoring for the reporting period is given below:</li> </ul>

NOISE LEVEL MEASUREMENT						
Month			Jun-20		Sep-20	
Sr. No.	Location	Department	dBA	dBA	dBA	dBA
			Day	Night	Day	Night
1	Simplex room line 1&2	Viscose	54	59	52	60
2	Simplex room line 3&4	Viscose	59	61	59	68
3	Office area Viscose and MIS	Viscose	45	52	48	50
4	Near Maturing Drum	Viscose	57	63	52	63
5	Pulper Operator	Viscose	56	60	51	64
6	Sodastation Office	Viscose	44	55	48	54
7	Sodastation Area	Viscose	55	62	59	63
8	GDP area	Viscose	63	68	60	68
9	Blower room (Top Floor)	Viscose	65	69	58	67
10	Road between Viscose and Spinning	-	44	49	43	61
11	Bailing Press area line-1&2	Spinning	56	62	56	64
12	Bailing Press area line-1	Spinning	32	62	54	65
13	Dryer Office	Spinning	42	45	42	61
14	Fine Opener Line # 2	Spinning	41	46	58	65
15	Bailing Press area line-3	Spinning	58	61	57	63
16	Bailing Press area line-4	Spinning	58	61	55	67
17	Fine Opener Line # 3	Spinning	62	64	62	66
18	Fine Opener Line # 4	Spinning	59	63	64	68
19	Dryer # 3	Spinning	59	62	60	63
20	Dryer # 4	Spinning	57	62	57	64
21	Dryer # 3 & 4 cabin	Spinning	48	51	50	53

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22	Aft treatment Operator Line 3&4 cabin	Spinning	49	52	49	57
23	Aft treatment Operator Line 1&2	Spinning	64	68	59	64
24	Spinning M/C-2	Spinning	59	65	62	65
25	Jet room # 3, 4	Spinning	52	59	58	55
26	Spg office line 3 & 4	Spinning	43	50	49	52
27	Spinning M/C-3	Spinning	59	63	60	65
28	Spinning M/C-4	Spinning	61	61	59	62
29	Pump House	Fire Stn.	50	57	54	58
30	Acid plant (Control room inside)	Acid Plant	40	44	40	46
31	Blower Old Plant (Outside)	Acid Plant	63	68	61	65
32	Blower (New Plant)	Acid Plant	63	69	63	68
33	Offices (Acid )	CS2/Acid plant	39	43	48	45
34	Ammonia Compressor # 3 area	CS2 Refinery	66	69	60	65
35	Ammonia Compressor # 1 area	CS2 Refinery	63	67	59	68
36	Near Chiller Area	CS2 Refinery	58	62	57	65
37	H2S Gas holder area	CS2 plant	49	54	50	57
38	CS2 control room	CS2 plant	40	44	43	45
39	Charcoal Feeder	CS2 plant	41	48	42	46
40	Furnace area	CS2 plant	50	53	51	55
41	Pump House	WTP	59	62	59	64
42	Operator room (Inside)	WTP	54	49	45	52
43	Operator room (Outside)	WTP	52	60	50	62
44	Office	WTP	43	43	43	46
45	Lab	WTP	42	42	44	45
46	EC entrance	EC	38	40	40	43
47	TG ground floor area (Near MCC)	EC	44	60	45	60
48	MCC room (ground floor)	EC	44	44	43	46
49	Compressor area (Khosla Crepelle)	EC	61	66	63	67
50	Between 3PA Fan 1 & 2	EC	47	52	48	54
51	Between 3FD Fan # 1 & 2	EC	53	55	53	57
52	Between 2FD Fan 1 & 2	EC	56	58	56	60
53	Between 2PA Fan 1 & 2	EC	58	63	59	62
54	Near Turbine # 1	EC	61	65	62	66
55	Near Turbine # 2	EC	63	66	63	68
56	Office Gallary	EC	48	51	48	53
57	Turbine # 3 floor (Near Generator)	EC	60	63	60	64
58	EC Control room (Outside)	EC	59	66	59	65
59	EC Control room (inside)	EC	42	45	43	47

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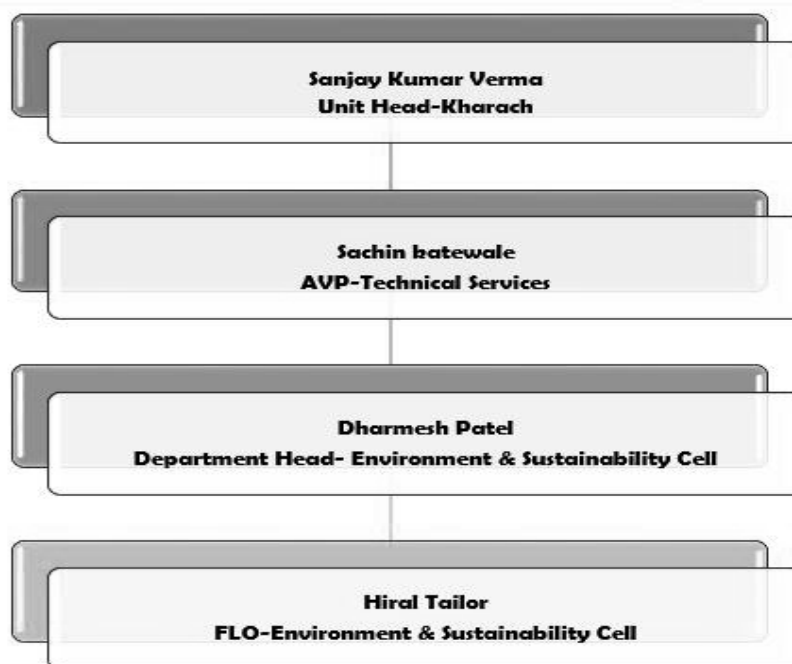
60	Office / Conf. Room	Auxiliary	44	48	44	51
61	Drum Dryer - 8.0 mtr.	Auxiliary	60	60	55	62
62	Vibrators	Auxiliary	59	63	59	65
63	RVF / TFF - 13 mtr	Auxiliary	61	62	58	64
64	RVF / TFF - 19 mtr blower (Old)	Auxiliary	61	66	62	62
65	RVF / TFF - Operator room	Auxiliary	46	52	47	52
66	RVF / TFF - blower top floor area (Old)	Auxiliary	63	67	64	69
67	RVF / TFF - blower top floor area (New)	Auxiliary	65	69	65	68
68	Crystallization office - New plant (out)	Auxiliary	60	62	57	62
69	Crystallization office - New plant (In)	Auxiliary	50	53	51	55
70	MSFE office - Old Plant (Outside)	Auxiliary	54	59	55	60
71	MSFE office - Old Plant (Inside)	Auxiliary	48	51	51	53
72	Cooling towew # 3	Auxiliary	59	64	60	65
73	Cooling towewr - New Plant - CS2 side	Auxiliary	49	53	49	55
74	Workshop Hall	Workshop	56	60	51	62
75	Office	Workshop	52	42	42	55
76	Gate 1	Boundary area	56	48	55	50
77	Gate 2	Boundary area	56	48	54	50
78	TRADC circle	Boundary area	58	48	59	49
(vi)	The Company shall harvest rainwater from the tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.	<p>o <b><u>Being Complied.</u></b></p> <p>o Rainwater is being harvested to conserve the fresh water and recharge the ground water. In the Monsoon season approx. 364350 M3 was conserved.</p>				
(vii)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	<p>o <b><u>Complied.</u></b></p> <p>o All the employees have been provided with proper training to handle any emergency and periodically hired the experts for training also.</p> <p>o Safety video for employees and visitors has been prepared. All important safety information contains guide templates provided to educate more about safety at work place.</p> <p>o PPE has been made compulsory when people enter from plant gate #2. Identified the area where more precautionary PPE's required like coal handling area, lime handling area, CS2 plant, etc.</p> <p>o Provision of PPE's like safety shoes, safety goggles, dust mask, ear plug has been made available by the unit for all employees and visitors.</p>				

**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
and  
Coal based CPP from 25 MW to 45 MW'**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

		Additionally, extra care of PPE's has also been provided to those who work at critical area.
(viii)	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.	<ul style="list-style-type: none"> <li>o <b><u>Being complied.</u></b></li> <li>o Unit is in compliance with the environmental protection measures and safeguards recommended in EIA / EMP / Risk Analysis Reports. &amp; public hearing is being done.</li> </ul>
(ix)	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.	<ul style="list-style-type: none"> <li>o <b><u>Being complied.</u></b></li> <li>o Unit is going for production increase quantity phase wise. As per total project cost; Various community development measures in and around 32 villages have been taken by the Unit and no of beneficiaries-15925 covered in reporting period.</li> <li>o A separate budget allocated for the same.</li> </ul>
(x)	A separate Environment Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o A separate environment management cell has been constituted under the leadership of Facility Head.</li> <li>o The detailed Organization chart is given below:</li> </ul>

**Organization Structure for Environment Management Cell**





**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
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(xi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o The funds earmarked for the environmental protection measures are being maintained and not diverted for other purpose.</li> <li>o Unit has kept separate budget to meet the capital &amp; recurring cost for maintaining the environment - cost for all instrument, pipe line and ETP.</li> <li>o A year wise expenditure on environment safeguards is being submitted to MOEF and CC at the end of each FY along with EC compliance report for the period of Oct to March of each year.</li> <li>o Environment expenditure for FY-20 is submitted along with earlier compliance report.</li> <li>o Unit is assured that will submit the Environment expenditure for FY-21 along with next compliance report for Oct-20 to March-21.</li> </ul>
(xi)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o A copy of clearance letter has been submitted to District Industries Centre, District Panchayat, Collector Office, GPCB-RO &amp; GPCB-HO.</li> </ul>
(xiii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF & CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Every six monthly compliance report is being submitted to Regional Office of MOEF &amp; CC, Bhopal and SPCB.</li> <li>o Compliance report for the period: (Oct-19 to March-20) was submitted on 07.07.2020.</li> <li>o Last six monthly Environment clearance compliance report uploaded on company's website.</li> </ul>
(xiv)	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as per prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, Shall also be put on the website of the company along with the status of environmental clearance conditions and shall also be sent to the	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V is being submitted to Gujarat State Pollution Control Board as per prescribed under the Environment (Protection) Rules, 1986, as amended subsequently.</li> <li>o Unit is uploading copy of Environment statement on company's website as prescribed in EC.</li> </ul>

**'Expansion of Viscose Staple Fibre unit from 1,27,750 to 2,33,600 TPA  
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	respective Regional offices of MoEF&CC by e-mail.	
(xv)	<p>The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <a href="http://moef.nic.in">http://moef.nic.in</a>. 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.</p>	<ul style="list-style-type: none"> <li>○ <b>Complied.</b></li> <li>○ Advertisement has been published within 7 days from the date of issue of the clearance letter and copy forwarded to Ministry's Regional Office at Bhopal. Refer EC advertisement copy is enclosed below.</li> </ul>
	 <p><b>PUBLIC NOTICE ENVIRONMENTAL CLEARANCE</b></p> <p>It is hereby informed that the Ministry of Environment, Forests and Climate Change, IA Division, Government of India, New Delhi, has accorded Environmental Clearance for Expansion of Viscose Staple Fibre Unit &amp; Coal based CPP at Birladham, Village Kharach, Tehsil Hansot Dist. Bharuch (Gujarat) of M/s. Birla Cellulosic (A unit of M/s. Grasim Industries Ltd.) vide letter No. J-11011/320/2016-IA II (I) dated 22/02/2018, under the provision of EIA Notification dated 14th September 2006.</p> <p>Copies of Clearance letter are available with the SPCB and may also be seen at website of MoEFCC, <a href="http://www.envfor.nic.in">www.envfor.nic.in</a></p> <p>Date : 22/02/2018 Place : KHARACH</p> <p align="right"><b>UNIT HEAD M/S. BIRLA CELLULOSIC</b></p>	 <p align="center"><b>જાહેર સૂચના (પર્યાવરણ મંજૂરી)</b></p> <p>આ સાથે જણાવવામાં આવે છે કે પર્યાવરણ વન અને ક્લાઇમેટ ચેન્જ મંત્રાલય આઈ.એ. વિભાગ, ભારત સરકાર, નવી દિલ્હી દ્વારા મેસર્સ બિરલા સેલ્યુલોઝીક (મેસર્સ ગ્રાસિમ ઇન્ડસ્ટ્રીસનો યુનિટ) બિરલાધામ, ગામ: ખરચ, તાલુકા: હાસોટ, જિલ્લો: ભરૂચ (ગુજરાત) ખાતે વિસ્કોસ સ્ટેપલ ફાઇબર યુનિટ અને કોલ બેઝેડ સી.પી.પી. પ્લાન્ટના વિસ્તરણ માટેની પર્યાવરણીય મંજૂરી તારીખ ૨૨/૦૨/૨૦૧૮ ના પત્ર ક્રમાંક J-11011/320/2016-IA II (I) દ્વારા ઈ.આઈ.એ. નોટીફિકેશન તારીખ ૧૪ સપ્ટેમ્બર ૨૦૦૬ જોગવાઈ હેઠળ આપેલ છે.</p> <p>ઉપરોક્ત પત્રની નકલ સ્ટેટ પોલ્યુશન કંટ્રોલ બોર્ડ ઉપરાંત MoEF ની વેબસાઇટ <a href="http://www.envfor.nic.in">www.envfor.nic.in</a> ઉપર ઉપલબ્ધ છે.</p> <p>તારીખ: ૨૨/૦૨/૨૦૧૮ સ્થળ: ખરચ</p> <p align="right">યુનિટ હેડ મેસર્સ બિરલા સેલ્યુલોઝીક</p>
	○ English Advertisement	○ Gujarati Advertisement



Dated: 29.10.2020

To,  
Member Secretary,  
State level Environment Impact Assessment Authority,  
Gujarat Pollution Control Board,  
Sector-10 A, Paryavaran Bhavan  
Gandhinagar-382010.

Subject: Half Yearly Environmental Clearance Compliance Report for period of April-20 to September-20

Dear Sir,

In view of above subject matter, Here, we are submitting the hard copy as well as soft copy of half yearly Environmental Clearance Compliance report along with copy of EC-2016, No. J. SEIAA/GUJ/EC/5(d) & 1(d)/339/2016 dtd. 20.05.2016 for the report period from April-20 to September-20.

Hope, the same is in order.

Yours Faithfully,  
(For Birla Cellulosic)

Dharmesh Patel  
DH- Environment

Encl. :

1. EC Copy
2. EC-2016 Compliance report (April-20 to September-20)

CC To:

1. GPCB Regional office - Gujarat pollution control board, Plot No. 1501, GIDC, Ankleshwar
2. GPCB Head office - Gujarat pollution control board, Paryavaran Bhavan, CHH Road, Sector 10A, Gandhinagar, Gujarat 382010



Birla Cellulose  
Fibres from nature

Grasim Industries Limited  
Unit - Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.  
Dist. Bharuch (Gujarat) - 394 120 INDIA  
CIN : L17124MP1947PLC000410

Telephone : +91 2646 270001-005, 270301-305  
Fax : +91 2646 270010, 270130  
Email : bc-kharach.info@adityabirla.com

Liaison Office : 11th Floor - 1101 & 1102 OCEAN, Opposite Vadodara Central Mall, Vikram Sarabhai Marg, Vadiwadi, Vadodara - 390023, Gujarat - India  
Regd. Office : P.O. Birlagram, Nagda (MP) - 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : www.grasim.com



No. SEIAA/GU/EC/5(d)&1(d)/333/2016

Date: 20 MAY 2016 By R P A D

Time Limit

Sub: Environment Clearance to M/s. Birla Cellulosic (A Unit of Grasim Industries) for setting up of the proposed manufacturing of Solvent Spun Cellulosic Fibre and Coal based Captive Power Plant (CPP) within the existing premises of Birla Cellulosic plant at Survey no.185-181,183,184,202,205,219, Birladham, Kharach, Kosamba (R.S.), Dist: Bharuch..... In Category 5(d) & 1(d) of Schedule annexed with EIA Notification dated 14/08/2006.

Dear Sir,

This has reference to your application along with Form-I dated 13/06/2012 submitted to SEIAA, seeking Environmental Clearance under Environment Impact Assessment Notification, 2006 and EIA/ additional information / documents submitted vide letter dated 28/08/2015, 23/10/2015 and 22/03/2016 to the SEAC.

The proposal is for Environmental Clearance to M/s. Birla Cellulosic (A Unit of Grasim Industries) for setting up of the proposed manufacturing of Solvent Spun Cellulosic Fibre and Coal based Captive Power Plant (CPP) within the existing premises of Birla Cellulosic plant at Survey no.185-181,183,184,202,205,219, Birladham, Kharach, Kosamba (R.S.), Dist: Bharuch. It is an existing unit for manufacturing following products, which falls in the category - 5(d) & 1(d) of the schedule of the EIA Notification-2006:

Sr. no	List of product	Capacity
1	Solvent Spun Cellulosic Fibre	108500 MT/Annium
2	Captive Power Plant	71 MW

The project activity is covered in 5(d) & 1(d) and is of 'B' Category. Public hearing was carried out by Gujarat Pollution Control Board on 15/05/2015.

The SEAC, Gujarat vide their letter dated 04/06/2016 had recommended to the SEIAA, Gujarat, to grant the Environment Clearance for the above-mentioned project based on its meeting held on 23/03/2016. The proposal was considered by SEIAA, Gujarat in its meeting held on 07/06/2016 at Gandhinagar. After careful consideration, the SEIAA hereby accords Environmental Clearance to above project under the provisions of EIA Notification dated 14<sup>th</sup> September 2006 subject to the compliance of the following conditions.

**A. CONDITIONS:**

**A.1 SPECIFIC CONDITION**

1. The manufacturing process for the production of Solvent spun cellulosic fibre shall be environment friendly and there shall be no use of any hazardous chemicals like  $CS_2$  and  $H_2SO_4$  in the main process.
2. The proposed "Solvent Spinning Technology" for production of cellulosic fibres shall use N-Methyl Morpholine N-Oxide (NMMO)/ Ionic Liquid (IL) as a direct solvent for cellulose and Recovery of NMMO/ Ionic Liquid from the Regenerating and Washing Baths shall be more than 99.5% and recovered solvent shall be reused in the process.

**A.2 WATER**

3. Water requirement for the proposed expansion shall not exceed 12089 KL/day. Additional fresh water requirement shall be 7982 KL/day as unit shall reuse RO permeate 3319 KL/day from RO plant and 786 KL/day of MEE Condensate.
4. The additional fresh water shall be sourced from River Km. Permission from the Concern authority for additional water requirement shall be obtained.
5. The water meter shall be installed and records of daily and monthly water consumption shall be maintained. No ground water shall be tapped for the project requirements in any case.
6. Total waste water generation from the proposed project shall not exceed 7149 KL/day.
7. Unit shall provide adequate Multiple Effect Evaporator (MEE) plant and RO system and it shall be operated regularly and efficiently so as to achieve the GPCB norms at the final outlet.
8. Out of the total effluent generation, 4149 KL/day shall be fed to R.O. and balance 3000 KL/day shall be treated in the existing ETP.
9. R.O permeate (3319 KL/day) shall be reused back in the process and R.O reject (830 KL/day) shall be subjected to MEE.

(Multiple Effect Evaporator) Condensate (788 KL/day) from MEE shall be reused and MEE salts after drying shall be disposed off in the authorized TSDF site.

10. The treated water from ETP conforming to the GPCB norms shall be discharged into the Kim estuary through 24 km long existing pipeline. The anticipated treated effluent quantity to be discharged into existing pipeline shall not exceed 14500 KL/day (existing 11500 KL/day and proposed 3000 KL/day). The unit shall also provide on line pH meter and TOC meter for online monitoring of the treated effluent.
11. There shall be no increase in domestic waste water generation.
12. The unit shall provide metering facility at the inlet and outlet of the ETP, for RO system & for MEE and maintain the records of the same. A proper logbook of ETP, RO & MEE operation and also showing the quantity of effluent generated, Reuse/Recycle, shall be maintained and furnished to the GPCB from time to time.
13. Regular performance evaluation of the ETP, RO & MEE system shall be undertaken once in a year through a reputed institute / organization and its records shall be maintained.
14. The unit shall join and participate financially and technically for any common environmental 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.
15. A separate electric meter shall be placed for the ETP, RO and MEE system. Proper logbook of ETP, RO system and MEE operation also showing chemicals consumed, effluent evaporated, power consumed etc. shall be maintained and furnished to the GPCB from time to time.

#### **A.3 AIR:**

16. Blended Coal (Imported Coal – 50 % and Indigenous Coal – 50 %) to the tune of 2130 MT/day shall be used for 4 nos. of Steam Boilers [3 Boilers of capacity 120 TPH each and one Boiler of capacity 100 TPH].
17. Sulfur and ash content of the imported coal and indigenous coal shall be analyzed and its record shall be maintained.
18. Stack of adequate height shall be provided as per the prevailing norms for flue gas emissions.
19. Lime stone injection technology shall be adopted to control SO<sub>2</sub> for proposed Steam Boilers and it shall be ensured that SO<sub>2</sub> levels in the ambient air do not exceed the prescribed standards.
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 proposed Boilers. The ESP shall be operated efficiently to ensure that particulate matter emission does not exceed the GPCB norms. The control system shall be designed and integrated in plant DCS in such a way that if emission from ESP exceeds the specified standard, utilization of boiler capacity shall reduce so that flue gas emission from the stack meets with the specified norms or boiler shall shut down totally.
21. Flue gas emission from Boilers shall conform to the standards prescribed by the GPCB. At no time, emission level should go beyond the stipulated standards.
22. The air pollution control systems shall be operated efficiently and effectively to achieve the norms prescribed by the GPCB at vent / stack outlets.
23. The company shall prepare schedule and carry out regular preventive maintenance of mechanical and electrical parts of ESPs and assign responsibility of preventive maintenance to the senior officer of the company.
24. 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.
25. Online monitoring system shall be installed on the flue gas stacks to monitor the pollutant concentrations. An 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.
26. There shall be no process gaseous emission from the proposed project.
27. Adequate storage facility for the fly ash in terms of closed silos shall be provided at site. No ash pond shall be constructed.
28. Handling of the fly ash shall be through a closed pneumatic system.
29. Ash shall be handled only in dry state.
30. 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.
31. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
  - All handling & transport of Coal shall be exercised through covered coal conveyors only.
  - Enclosure shall be provided at Coal loading and unloading operations.
  - Water shall be sprinkled on Coal stock piles periodically to retain some moisture in top layer and also while compacting to reduce the fugitive emission.
  - All transfer points shall be fully enclosed.

- Adequate dust suppression/extraction system at crusher house as well as for the Coal stock yard and other vulnerable areas shall be provided to abate dust nuisance
  - Accumulated coal dust / fly ash on the ground and other surfaces shall be removed / swept regularly and water the area after sweeping
  - Internal roads shall be either concreted 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
  - Coal shall be transported through covered trucks only whereas fly ash shall be transported through closed trucks only
  - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
32. All the vessels used in the manufacturing process shall be closed to reduce the fugitive emission
33. Measures shall be taken to reduce the process vapors emissions as far as possible. Toxic solvents shall not be used. All venting equipment shall have vapour recovery system.
34. All the vessels used in the manufacturing process shall be close to reduce the fugitive emission.
35. The fugitive emission in the work zone environment shall be monitored. The emission shall strictly conform to the standards prescribed by the concerned authorities from time to time (e.g. Directorate of Industrial Safety & Health).
36. Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, HC and VOC shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB
37. Airborne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures
38. Solvent management shall be carried out as follows :
- Reactor and solvent handling pump shall have mechanical seals to prevent leakages
  - The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 99.5% solvent recovery.
  - Solvents shall be stored in a separate space specified with all safety measures.
  - Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
  - Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses
39. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
40. For control of fugitive emission, VOCs, following steps shall be followed :
- a. Closed handling and charging system shall be provided for chemicals
  - b. Reflux condenser shall be provided over Reactors / Vessels.
  - c. Pumps shall be provided with mechanical seals to prevent leakages.
  - d. System of Leak Detection and Repair of pump/pipeline based on preventive maintenance

#### **A. 4 SOLID / HAZARDOUS WASTE:**

- 41. The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous & other wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB must be obtained for collection / treatment / storage / disposal of hazardous wastes
- 42. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.
- 43. ETP waste & MEE slt shall be disposed off at the Common TSDF site
- 44. Used rsm & Tow waste (Cellulose) shall be disposed off at the Common TSDF site or CHMF depending on the characteristics of the waste or shall be sent for co-processing.
- 45. Discarded barrels / containers / bags / liners shall be either reused or returned back to suppliers or sold only to the authorized vendors after decontamination.
- 46. Used oil shall be sold only to the registered recyclers.
- 47. The unit shall obtain necessary permission from the nearby TSDF site and CHMF.
- 48. The ash shall be supplied to the manufacturers of ash based products such as cement, concrete blocks, bricks, panels, etc. The unit shall strictly comply with the Fly-Ash Notification under EPA and it shall be ensured that there is 100% utilization of ash to be generated from the unit. Necessary records shall be maintained for this purpose and furnished to

the GPCB from time to time.

49. Continuous technical & quality control guidance shall be provided to actual users of fly ash to boost the utilization of fly ash
50. Vehicles used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.
51. All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF

#### **A 5 SAFETY:**

52. The company shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended.
53. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989, as amended in 2000 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
54. Necessary precautions like continuous monitoring of hot spots (ignited coal) using temperature detection systems, water sprinklers, avoiding stacking of coal near steam pipeline etc. shall be made for storing coal to prevent fire hazard.
55. Storage of flammable chemicals shall be sufficiently away from the production area
56. Sufficient no. of fire extinguishers shall be provided near the plant and storage area.
57. All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.
58. 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
59. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report
60. Only flame proof electrical fittings shall be provided in the plant premises.
61. 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.
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.
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
64. Personal Protective Equipments shall be provided to workers and its usage shall be ensured and supervised.
65. First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.
66. Training shall be imparted to all the workers on safety and health aspects of chemicals handling
67. 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.
68. Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules.
69. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.
70. Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.

#### **A 6 NOISE:**

71. The overall noise level in and 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 conform to the standards prescribed under The Environment (Protection) Act, 1986 & Rules

#### **A 7 CLEANER PRODUCTION AND WASTE MINIMISATION**

72. The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.
73. The company shall undertake various waste minimization measures including :
  - a. Metering and control of quantities of active ingredients to minimize waste.
  - b. Reuse of by-products from the process as raw materials or as raw materials substitutes.



- c. Use of automated and close filling to minimize spillages
- d. Venting equipment through vapour recovery system.
- e. Use of high pressure hoses for cleaning to reduce wastewater generation.
- f. Recycling of steam condensate
- g. Sweeping / mopping of floor instead of floor washing to avoid effluent generation
- h. Regular preventive maintenance for avoiding leakage, spillage etc.

#### **A.8 GREEN BELT AND OTHER PLANTATION**

- 74. The unit shall develop green belt within premises as per the GPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in the vicinity or any other open areas in consultation with the GPCB and submit an action plan of plantation for next three years to the GPCB.
- 75. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises

#### **B. OTHER CONDITIONS:**

- 76. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved
- 77. All the recommendations / commitments made and mitigation measures proposed in the EIA report of the project prepared by M/s. NEERI and submitted vide letter no. NJL dated 29/05/2015 shall be implemented in letter and spirit
- 78. The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.
- 79. During material transfer, spillages shall be avoided and gully/drain be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water
- 80. Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.
- 81. Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.
- 82. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority
- 83. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous & other wastes (Management and Transboundary Movement) Rules 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules
- 84. The project proponent shall have to 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.
- 85. 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
- 86. The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose
- 87. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and 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 newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.
- 88. 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 of the environmental protection and management
- 89. It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.
- 90. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- 91. The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board
- 92. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory



93. The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.
94. The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
95. This environmental clearance is valid for seven years from the date of issue.
96. Any appeal against this environmental 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.

With regards,  
Yours sincerely,

  
(M. M. JOSHI)  
Member Secretary

Issued to:  
Mr. Bharat Patel  
M/s: Birla Cellulosic,  
S. no. 188-181, 183, 184, 202, 205, 219,  
Birladham, Kharach,  
Kosamba (R.S.),  
Dist. Bharuch

Copy to:-

1. The Secretary, SEAC, C/O G.P.C.B. Gandhinagar - 382010,
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arun Nagar, New Delhi-110032
3. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (WZ), E-5, Arera Colony, Link Road-3, Bhopal-462016, MP
4. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003
5. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10 A, Gandhinagar-382010
6. Select File

  
(M. M. JOSHI)  
Member Secretary

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

**Name of Project** : Setting up of the proposed manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum) and Coal based Captive Power Plant (CPP) (71 MW) within the existing premises

**Environment Clearance letter no. & Date** : SEIAA/GUJ/EC/5(d) &1(d)/339/2016 dated 20-05-2016

**Address for Correspondence** : M/s. Birla Cellulosic (A Unit of Grasim Industries Ltd.) Birladham, Village: Kharach, Kosamba (R.S.), Tehsil: Hansot, Bharuch (Gujarat) – 394120

**Duration/Reporting period** : April-20 to Sept-20

S. No	Conditions	Compliance Status
<b>A.1</b>	<b>Specific Condition</b>	
1.	The manufacturing process for the production of solvent spun cellulosic fiber shall be environmentally friendly and there shall be no use of any hazardous chemical like CS <sub>2</sub> and H <sub>2</sub> SO <sub>4</sub> in the main process.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Hazardous Chemicals i.e. CS<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> are not being used in main process.</li> </ul>
2.	The proposed “Solvent Spinning Technology” for production of cellulosic fibers shall use N-Methyl Morpholone N-Oxide (NMMO)/Ionic Liquid (IL) as a direct solvent for cellulose and recovery of NMMO/Ionic Liquid from the Regenerating and washing baths shall be more than 99.5% and recovered solvent shall be reused in the process.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ For mfg. of “Solvent spun cellulosic fibre” N-Methyl Morpholone N-Oxide (NMMO) is being used as a direct solvent for cellulose and recovery of NMMO/ from the Regenerating and washing baths is 99.76% and recovered solvent is reused in the process.</li> </ul>
<b>A.2</b>	<b>Water</b>	
3.	Water requirement for the proposed expansion shall not exceed 12069 KL/day. Additional Fresh water requirement shall be 7962 KL/day as unit shall reuse RO permeate 3319 KL/day from RO plant and 788 KL/day of MEE condensate.	<ul style="list-style-type: none"> <li>○ <b><u>Noted &amp; Complied.</u></b></li> <li>○ The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum) along with Captive Power Plant 15 MW.</li> <li>○ Due to Covid-19, The plant was not in operational condition up to 30<sup>th</sup> august’20 hence, The cumulative production for the reporting period is low.</li> <li>○ Due to lower production, Fresh water consumption quantity is very less.</li> <li>○ Summary of Fresh water consumption for Solvent spun cellulosic fibre plant for period</li> </ul>

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status														
		<div>of April-20 to Sept-20 as below:</div> <table><tr><th>Month</th><th>Quantity (KL/Month)</th></tr><tr><td>April-20</td><td>381</td></tr><tr><td>May-20</td><td>631</td></tr><tr><td>June-20</td><td>1793</td></tr><tr><td>July-20</td><td>3263</td></tr><tr><td>Aug-20</td><td>4602</td></tr><tr><td>Sept-20</td><td>24321</td></tr></table>	Month	Quantity (KL/Month)	April-20	381	May-20	631	June-20	1793	July-20	3263	Aug-20	4602	Sept-20	24321
Month	Quantity (KL/Month)															
April-20	381															
May-20	631															
June-20	1793															
July-20	3263															
Aug-20	4602															
Sept-20	24321															
4.	The additional fresh water shall be sourced from river Kim. Permission from the concern authority for additional water requirement shall be obtained.	<div>o <b><u>Noted &amp; Complied.</u></b></div> <div>o Permission for the drawl of 19,000 M<sup>3</sup>/day water has been obtained. For the same the agreement has been done with the Irrigation Department.</div>														
5.	The water meter shall be installed and records of daily and monthly water consumption shall be maintained. No ground water shall be tapped for the project requirement in any case.	<div>o <b><u>Noted &amp; Complied.</u></b></div> <div>o The fresh water requirement is met from the surface water i.e. Kim river and groundwater is not tapped. The water meter is already in place at water withdrawal line and fresh water withdrawal record is being maintained on daily and monthly basis and frame in logbook.</div>														
6.	Total waste water generation from the proposed project shall not exceed 7149 KL/day.	<div>o <b><u>Noted &amp; Complied.</u></b></div> <div>o The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum) along with Captive Power Plant 15 MW.</div> <div>o Due to Covid-19, The plant was not in operational condition upto 30<sup>th</sup> august'20 hence, The cumulative production for the reporting period is low.</div> <div>o Due to lower production, Waste water generation quantity is very less.</div> <div>o Data for Industrial effluent discharge towards Kim estuary through existing pipeline of VSF</div>														

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status														
		<p>plant for period of April-20 to Sept-20 as below:</p> <table><tr><th>Month</th><th>Quantity (KL/Month)</th></tr><tr><td>April-20</td><td>-</td></tr><tr><td>May-20</td><td>-</td></tr><tr><td>June-20</td><td>1358</td></tr><tr><td>July-20</td><td>1784</td></tr><tr><td>Aug-20</td><td>3335</td></tr><tr><td>Sept-20</td><td>14770</td></tr></table> <p>o The waste water generation during mfg of Solvent spun cellulosic fiber is treating in 2 stages, In 1<sup>st</sup> stage Effluent is treating at separate ETP constructed at SSCF plant and in 2<sup>nd</sup> stage treating along with effluent generating from VSF plant.</p>	Month	Quantity (KL/Month)	April-20	-	May-20	-	June-20	1358	July-20	1784	Aug-20	3335	Sept-20	14770
Month	Quantity (KL/Month)															
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June-20	1358															
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Aug-20	3335															
Sept-20	14770															
7.	Unit shall provide adequate Multi Effect Evaporator (MEE) plant and RO system and it shall be operated regularly and efficiently so as to achieve the GPCB norms at the final outlet.	<p>o <b><u>Shall be comply.</u></b></p> <p>o The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum) along with Captive Power Plant 15 MW.</p> <p>o Unit has installed Multi Effect Evaporator for solvent recovery, Generated quantity of MSFE condensate water 100% reusing in cooling water make up and fiber washing.</p> <p>o RO system shall be install &amp; operate regularly and efficiently to achieve the GPCB norms at the final outlet as the unit is operated at full capacity.</p>														
8.	Out of the total effluent generation, 4149 KL/day shall be fed to R.O. and balance 3000 KL/day shall be treated in the existing ETP.	<p>o <b><u>Shall be comply.</u></b></p> <p>o RO system shall be install &amp; operate regularly and efficiently to achieve the GPCB norms at the final outlet as the unit is</p>														

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status																														
		<p>operated at full capacity.</p> <ul style="list-style-type: none"><li>Unit has installed Multi Effect Evaporator for solvent recovery, Generated quantity of MSFE condensate water 100% reusing in cooling water make up and fiber washing.</li></ul>																														
9.	R.O. permeate (3319 KL/day) shall be reused back in the process and R.O. reject (830 KL/day) shall be subjected to MEE (multi effect evaporator). Condensate (788 KL/day) from MEE shall be reused and MEE salts after drying shall be disposed off in the authorized TSDF site.	<ul style="list-style-type: none"><li><b><u>Shall be comply.</u></b></li><li>RO system shall be install &amp; operate regularly and efficiently to achieve the GPCB norms at the final outlet once the unit is operated at full capacity.</li><li>Unit has installed Multi Effect Evaporator for solvent recovery, Generated quantity of MSFE condensate water 100% reusing in cooling water make up and fiber washing.</li></ul>																														
10.	The treated water from ETP conforming to the GPCB norms shall be discharged into the Kim estuary through 24 km long existing pipeline. The anticipated treated effluent quantity to be discharged into existing pipeline shall not exceed KL/day (existing 11500 KL/day and proposed 3000 KL/day).	<ul style="list-style-type: none"><li><b><u>Noted &amp; Complied.</u></b></li><li>The waste water generation during manufacturing of Solvent spun cellulosic fiber is treating in 2 stages, In 1<sup>st</sup> stage Effluent is treating at separate ETP constructed at SSCF plant and in 2<sup>nd</sup> stage treating along with effluent generating from VSF plant.</li><li>A full-fledged in-house laboratory is established to monitor the parameters round the clock. The quality of treated effluent is also monitored by NABL accredited Laboratory on monthly basis.</li><li>The results of treated effluent monitoring are as below:</li></ul> <table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>pH</td><td>-</td><td>7.5</td><td>8.36</td><td>7.7</td><td>8</td></tr><tr><td>Temp.</td><td>°C</td><td>40</td><td>31</td><td>29</td><td>30</td></tr><tr><td>COD</td><td>mg/l</td><td>250</td><td>198</td><td>170</td><td>184</td></tr><tr><td>BOD</td><td>mg/l</td><td>100</td><td>40</td><td>28</td><td>34</td></tr></table>	Para.	Unit	Std.	Max.	Min.	Avg.	pH	-	7.5	8.36	7.7	8	Temp.	°C	40	31	29	30	COD	mg/l	250	198	170	184	BOD	mg/l	100	40	28	34
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BOD	mg/l	100	40	28	34																											

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status																																						
		<table><tr><td>Amm. N</td><td>mg/l</td><td>50</td><td>13.8</td><td>8.3</td><td>11.1</td></tr><tr><td>Zinc</td><td>mg/l</td><td>10</td><td>0.72</td><td>0.22</td><td>0.47</td></tr><tr><td>Color</td><td>Unit</td><td>100</td><td>50</td><td>30</td><td>40</td></tr><tr><td>SS</td><td>mg/l</td><td>100</td><td>42</td><td>19</td><td>30.5</td></tr></table> <p>○ The waste water generation of Solvent spun cellulosic fiber &amp; VSF plant is within the stipulated permission given by SPCB. Data for Industrial effluent discharge for period of April-20 to Sept-20 as below:</p> <table><tr><th>Month</th><th>Quantity (KLPD)</th></tr><tr><td>April-20</td><td>218188</td></tr><tr><td>May-20</td><td>269045</td></tr><tr><td>June-20</td><td>264983</td></tr><tr><td>July-20</td><td>280361</td></tr><tr><td>Aug-20</td><td>209597</td></tr><tr><td>Sept-20</td><td>261780</td></tr></table> <p>○ The treated water from ETP conforming to the GPCB norms is being discharged into the Kim estuary through 24 km long existing pipeline.</p> <p>○ Online pH meter and TOC meter at outlet of final treated water have been provided.</p>	Amm. N	mg/l	50	13.8	8.3	11.1	Zinc	mg/l	10	0.72	0.22	0.47	Color	Unit	100	50	30	40	SS	mg/l	100	42	19	30.5	Month	Quantity (KLPD)	April-20	218188	May-20	269045	June-20	264983	July-20	280361	Aug-20	209597	Sept-20	261780
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11.	The unit shall also provide on line pH meter and TOC meter for online monitoring of the treated effluent.																																							
11.	There shall be no increase in domestic waste water generation.	○ <b><u>Noted.</u></b>																																						
12.	The unit shall provide metering facility at the inlet and outlet of the ETP, for RO system & for MEE maintain the records of the same. A proper logbook of ETP, RO & MEE operation and also showing the quantity of effluent generated, Reuse/Recycle, shall be maintained and furnished to the GPCB from time to time.	○ <b><u>Complied.</u></b> ○ Flow meter at the inlet & outlet of ETP has been installed. ○ Unit has installed Multi Effect Evaporator for solvent recovery, Generated quantity of MSFE condensate water 100% reusing in cooling water make up and fiber washing. ○ At present, RO is not installed. It shall be																																						

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status														
		installed once the plant is operated at full capacity and metering facility will be provided.														
13.	Regular performance evaluation of the ETP RO & MEE system shall be undertaken once in a year through a reputed institute/ organization and its records shall be maintained.	<ul style="list-style-type: none"><li>○ <b><u>Shall be comply.</u></b></li><li>○ The same is being practiced once the unit is operated at full capacity.</li></ul>														
14.	The unit shall join and participate financially and technically for any common environmental 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.	<ul style="list-style-type: none"><li>○ <b><u>Shall be comply.</u></b></li></ul>														
15.	A separate electric meter shall be placed for the ETP, RO and MEE system, Proper logbook of ETP, RO system and MEE operation also showing chemicals consumed, effluent evaporated, power consumed etc, shall be maintained and furnished to the GPCB from time to time.	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ A separate electric meter has been provided in ETP and record for power consumption is being maintain in logbook.</li></ul>														
<b>A3.</b>	<b>AIR</b>															
16.	Blended coal (Imported Coal – 50% and Indigenous Coal- 50%) to the tune of 2130 MT/day shall be used for 4 nos. of Steam Boiler (3 Boiler of capacity 120 TPH each and one Boiler of capacity 100TPH).	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ Unit is using imported and indigenous coal to the tune of 450 TPD for one boiler of capacity 100 TPH.</li><li>○ Coal consumption for period of April-20 to Sept-20 as mentioned below:<table><tr><th>Month</th><th>Quantity (MT/M)</th></tr><tr><td><b>April-20</b></td><td>6906</td></tr><tr><td><b>May-20</b></td><td>13610</td></tr><tr><td><b>June-20</b></td><td>18199</td></tr><tr><td><b>July-20</b></td><td>19148</td></tr><tr><td><b>Aug-20</b></td><td>20282</td></tr><tr><td><b>Sept-20</b></td><td>21693</td></tr></table></li><li>○ The quantity of coal consumption is including the VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</li></ul>	Month	Quantity (MT/M)	<b>April-20</b>	6906	<b>May-20</b>	13610	<b>June-20</b>	18199	<b>July-20</b>	19148	<b>Aug-20</b>	20282	<b>Sept-20</b>	21693
Month	Quantity (MT/M)															
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<b>Aug-20</b>	20282															
<b>Sept-20</b>	21693															
17.	Sulfur and ash content of the imported coal and Indigenous Coal shall be analyzed and its record	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Sulfur and ash content of the imported coal</li></ul>														

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
	shall be maintained.	and Indigenous coal is being analyzed by internal laboratory on daily basis and with third party analyzer on monthly basis and records for same is being maintained. ○ Copy of Analysis report is attached as <b><u>Annexure 1.</u></b>
18.	Stack of adequate height shall be provided as per the prevailing norms for the flue gas emissions.	○ <b><u>Complied.</u></b> ○ Unit has provided adequate stack along with attached boiler.
19.	Lime stone injection technology shall be adopted to control SO <sub>2</sub> for proposed Steam Boilers and it shall be ensured that SO <sub>2</sub> levels in the ambient air do not exceed the prescribed standards.	○ <b><u>Complied.</u></b> ○ Unit has adopted lime stone injection technology to control the concentration of SO <sub>2</sub> and meeting all the standards stipulated for SO <sub>2</sub> .
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 proposed Boilers. The ESP shall be operated efficiently to ensure that particulate matter emission does not exceed the GPCB norms. The control system shall be designed and integrated in the DCS in such a way that if emission from ESP exceeds the specified standard, utilization of boiler capacity shall reduce so that flue gas emission from the stack meets with the specified norms or boiler shall shut down totally.	○ <b><u>Complied.</u></b> ○ Unit has installed 3 No. of ESP having three fields with boiler 1 & 2, four fields with boiler 3 having 99.9% efficiency for control of flue gas emission from Boiler. ○ Functioning efficiency of ESP is being monitored once in a year by internal inspection and once in a 3 year with external third party during energy audit. ○ Concentration of flue gas emission for boiler is being monitored by NABL accredited third party on monthly basis.
21.	Flue gas emission from Boilers shall conform to the standards prescribed by the GPCB. At no time, emission level should go beyond the stipulated standards.	○ <b><u>Complied.</u></b> ○ Emissions are being regularly maintained and the monitoring is being conducted by NABL accredited laboratory. ○ Online monitoring system for SO <sub>2</sub> , NO <sub>x</sub> , and PM are being provided for monitoring the emissions from Power Plant, which is connected with GPCB/CPCB server. A summary of the last six months for flue gas is given below:



**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**


**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status					
		Para.	Unit	Std.	Max.	Min.	Avg.
		PM	mg/ nm3	100/ 50	52.80	37.94	45.37
		SO2	mg/ nm3	600	311	228	269.5
		NOx	mg/ nm3	600	117	84.25	100.63
22.	The air pollution control systems shall be operated effectively to achieve the norms prescribed by the GPCB at vent/ stack outlets.	<p>○ <b><u>Complied.</u></b></p> <p>○ Unit has installed 3 No. of ESP having three fields with boiler 1 &amp; 2, four fields with boiler 3 having 99.9% efficiency for control of flue gas emission from Boiler, which is being used 365*24*7.</p> <p>○ There's no process vent/stack at mfg. plant of Solvent spun cellulosic fibre.</p>					
23.	The company shall prepare schedule and carry out regular preventive maintenance of mechanical and electrical parts of ESPs and assign responsibility of preventive maintenance to the senior officer of the company.	<p>○ <b><u>Complied.</u></b></p> <p>○ Unit has prepared schedule for preventive maintenance of mechanical and electrical parts of ESPs, which is being follows yearly.</p>					
24.	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.	<p>○ <b><u>Complied.</u></b></p> <p>○ Unit is monitoring the functioning efficiency of ESP once in a year by internal inspection and once in a 3 year with external third party during energy audit.</p>					
25.	Online monitoring system shall be installed on the flue gas stacks to monitor the pollutant concentrations. An arrangement shall also be made for reflecting the online monitoring results on the company's server, which can be accessed by the GPCB on the real time basis.	<p>○ <b><u>Complied.</u></b></p> <p>○ Online monitoring system for SO2, NOx, PM for monitoring the emissions from Power Plant is installed. The Online data is being transmitted to GPCB/CPCB server.</p>					
26.	There shall be no process gaseous emission from the proposed project.	<p>○ <b><u>Noted.</u></b></p> <p>○ There are no process gaseous emission from Solvent Spun Cellulosic Fibre plant.</p>					
27.	Adequate storage facility for the fly ash terms of closed silos shall be provided at site. No ash pond shall be constructed.	<p>○ <b><u>Complied.</u></b></p> <p>○ There are 3 no. of closed silo having 10000 MT storage capacity for storage of fly ash. Photographs for fly ash silo is enclosed</p>					

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and  
Coal based Captive Power Plant (CPP) (71 MW)  
Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status															
		below. ○ Unit has not constructed ash pond.															
																	
28.	Handling of the fly ash shall through a closed pneumatic system.	○ <b><u>Complied.</u></b>															
29.	Ash shall be handled only in dry state.	○ <b><u>Complied.</u></b>															
30.	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.	○ <b><u>Complied.</u></b> ○ Generated fly ash is provided to surrounding local Brick and Cement manufacturers for Co-processing as stipulated in the CCA. ○ A statement showing month-wise disposal quantity of fly ash for the reporting period is as mentioned below.															
		<table border="1"> <thead> <tr> <th>S. No.</th><th>Month</th><th>Ash Quantity (MT)</th></tr> </thead> <tbody> <tr> <td>1</td><td>April-20</td><td>40.51</td></tr> <tr> <td>2</td><td>May-20</td><td>963.38</td></tr> <tr> <td>3</td><td>June-20</td><td>3911.90</td></tr> <tr> <td>4</td><td>July-20</td><td>4820.24</td></tr> </tbody> </table>	S. No.	Month	Ash Quantity (MT)	1	April-20	40.51	2	May-20	963.38	3	June-20	3911.90	4	July-20	4820.24
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**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status																					
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31.	<p>The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the conceded authorities from time to time (e.g. Directors of Industrial Safety &amp; Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.</p> <ul style="list-style-type: none"> <li>• All handling &amp; transport of Coal shall be exercised through covered coal conveyors only.</li> <li>• Enclosure shall be provided at coal loading and unloading operations.</li> <li>• Water shall be sprinkled on Coal stock piles periodically to retain some moisture in top layer and also while compacting to reduce the fugitive emission.</li> <li>• All transfer points shall be fully enclosed.</li> <li>• Adequate dust suppression/ extraction system at crusher house as well as for the Coal stock yard and other vulnerable areas shall be provided to abate dust nuisance.</li> <li>• Accumulated Coal dust/ fly ash on the ground and other surface shall be removed / swept regularly and water the area after sweeping.</li> <li>• Internal roads shall be either concreted or asphalted or paved property to reduce the fugitive emission during vehicular movement.</li> <li>• Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.</li> <li>• Coal shall be transported through covered trucks only whereas fly ash shall be transported through</li> </ul>	<p>○ <b><u>Complied.</u></b></p> <p>○ A summary of the last six months for SPM concentration in work zone area is given below:</p> <table> <tr> <th>S. No.</th><th>Month</th><th>SPM (mg/m3)</th></tr> <tr> <td>1</td><td>April-20</td><td>0.25</td></tr> <tr> <td>2</td><td>May-20</td><td>0.24</td></tr> <tr> <td>3</td><td>June-20</td><td>0.25</td></tr> <tr> <td>4</td><td>July-20</td><td>0.25</td></tr> <tr> <td>5</td><td>Aug-20</td><td>0.24</td></tr> <tr> <td>6</td><td>Sept-20</td><td>0.26</td></tr> </table> <p>○ Fugitive emissions are being monitored in the Coal yard once in a week &amp; monitoring results are regularly submitting to concerned govt. regulatory.</p> <p>○ Following initiatives has been taken reduce the fugitive emission.</p> <ul style="list-style-type: none"> <li>✓ Unit has 2 nos. of closed loop coal conveyor for handling and transport of coal from bulker to feeder at boiler.</li> <li>✓ Closed area also available at CPP for unloading activities.</li> <li>✓ Manual water sprinklers are being installed and spraying on coal heaps for retain some moisture at top of heaps and reduce fugitive emission is done one</li> </ul>	S. No.	Month	SPM (mg/m3)	1	April-20	0.25	2	May-20	0.24	3	June-20	0.25	4	July-20	0.25	5	Aug-20	0.24	6	Sept-20	0.26
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S. No	Conditions	Compliance Status
	<p>closed trucks only.</p> <ul style="list-style-type: none"> <li>• A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive &amp; transport dust emission.</li> </ul>	<p>regular basis.</p> <ul style="list-style-type: none"> <li>✓ Coal transportation belt conveyor and unloading areas are in close loop.</li> <li>✓ Unit has well equipped suppression and extraction system at power plant for reduce the dust emission in and around area of CPP.</li> <li>✓ Unit is regularly cleaning of coal dust and fly ash on the ground and also clean with water spraying on ground.</li> <li>✓ Internal road is concreted and frequently sweeping vehicle is being used to reduce fugitive emission.</li> <li>✓ Unit has already installed water jet sprinkling system at air borne dust generation area like fly ash area.</li> <li>✓ Fly ash and coal both are transporting through dumper along with covered tarpaulin.</li> <li>✓ Adequate planation is being done in and around of coal yard and fly ash area. Green belt is 4 meter dense developed at periphery of road area also.</li> </ul>
32.	All the vessels used in the manufacturing process shall be closed to reduce the fugitive emission.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ Unit is not using any raw material having hazardous Characteristics. Also there's no any process/flue gas emission is being generating from manufacturing division. Hence, there's no provision to monitored fugitive emission in work zone environment.</li> </ul>
33.	Measures shall be taken to reduce the process vapor emissions as far as possible. Toxic solvents shall not be used. All venting equipment shall have vapour recovery system.	<ul style="list-style-type: none"> <li>○ <b><u>Noted.</u></b></li> <li>○ No toxic solvent is being used.</li> </ul>
34.	All the vessels used in manufacturing process shall be closed to reduce the fugitive emission.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ The all the sources of fugitive emissions are regularly checked.</li> </ul>
35.	The fugitive emission in the work zone	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> </ul>

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S. No	Conditions	Compliance Status																																										
	environment shall be monitored. The emission shall strictly conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety &Health).	<ul style="list-style-type: none"><li>Unit is not using any raw material having hazardous Characteristics. Also there's no any process/flue gas emission is being generating from manufacturing division. Hence, there's no provision to monitored fugitive emission in work zone environment.</li></ul>																																										
36.	<p>Regular monitoring of ground level concentration of SO2, NOx, PM10, PM 2.5, HC and VOC shall be carried out in the impact zone and its records shall be maintained.</p> <p>Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately.</p> <p>The location of the stations and frequency of monitoring shall be decided in construction with the GPCB.</p>	<ul style="list-style-type: none"><li><b><u>Complied.</u></b></li><li>Regular monitoring of ground level concentration of SO2, NOx, PM10, PM 2.5, HC and VOC is being carried out by NABL accredited M/s. Pollucon Laoratories.</li><li>A Summary for Ambient Air quality for the reporting period is given below:<table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM10</td><td>µg/m3</td><td>100</td><td>59.48</td><td>50.30</td><td>54.89</td></tr><tr><td>PM2.5</td><td>µg/m3</td><td>60</td><td>39.84</td><td>31.75</td><td>35.80</td></tr><tr><td>SO2</td><td>µg/m3</td><td>80</td><td>17.58</td><td>11.38</td><td>14.38</td></tr><tr><td>NOx</td><td>µg/m3</td><td>80</td><td>35.63</td><td>26.64</td><td>26.02</td></tr><tr><td>HC</td><td>µg/m3</td><td>NS</td><td>4.00</td><td>1.6</td><td>2.8</td></tr><tr><td>VOC</td><td>µg/m3</td><td>NS</td><td>0.35</td><td>0.25</td><td>0.30</td></tr></table></li><li>Ambient air quality levels do not exceed the standards stipulated by the GPCB.</li><li>The location of the stations and frequency of monitoring is being decided in consultation with the GPCB.</li></ul>	Para.	Unit	Std.	Max.	Min.	Avg.	PM10	µg/m3	100	59.48	50.30	54.89	PM2.5	µg/m3	60	39.84	31.75	35.80	SO2	µg/m3	80	17.58	11.38	14.38	NOx	µg/m3	80	35.63	26.64	26.02	HC	µg/m3	NS	4.00	1.6	2.8	VOC	µg/m3	NS	0.35	0.25	0.30
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37.	Airborne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosure.	<ul style="list-style-type: none"><li><b><u>Complied.</u></b></li><li>Unit has provided water sprinkling system at coal storage area, fly ash handling area for prevention of dusting.</li></ul>																																										
38.	<p>Solvent management shall be carried out as follows:</p> <ul style="list-style-type: none"><li>Reactor and solvent handling pump shall have mechanical seals to prevent leakages.</li><li>The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 99.5% solvent recovery.</li><li>Solvent shall be stored in a separate space</li></ul>	<ul style="list-style-type: none"><li><b><u>Complied.</u></b></li><li>Unit has taken following actions for management of solvent.<ul style="list-style-type: none"><li>For prevention of leakages, provide mechanical seal pump.</li><li>Achieving 99.76% recovery by providing condensers.</li><li>Separate storage area allotted for storage</li></ul></li></ul>																																										

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**



**Compliance of Environmental Clearance Conditions by**

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S. No	Conditions	Compliance Status
	<p>specified with all safety measures.</p> <ul style="list-style-type: none"> <li>• Proper earthing shall be provided in the electrical equipment wherever solvent handling is done.</li> <li>• Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.</li> </ul>	<p>of solvent.</p> <ul style="list-style-type: none"> <li>• Earthing facility has been provided.</li> </ul>
39.	Regular monitoring of Volatile Organic Compounds (VOC) shall be carried out in a work zone area and ambient air.	<ul style="list-style-type: none"> <li>o <b>Complied.</b></li> <li>o Non-volatile solvent is being used.</li> <li>o Regular monitoring of ground level concentration (Ambient air) of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM 2.5, HC and VOC is being carried out by NABL accredited laboratory M/s. Pollucon Laboratories.</li> <li>o Result summary for the reporting period is given in point no.36.</li> </ul>
40.	<p>For control of fugitive emission, VOCs, following steps shall be followed:</p> <ol style="list-style-type: none"> <li>1. Closed handling and charging system shall be provided for chemicals.</li> <li>2. Reflux condenser shall be provided over Reactors /Vessels.</li> <li>3. Pumps shall be provided with mechanical seals to prevent leakages.</li> <li>4. System of Leak Detection and repair of pump/pipeline based on preventive maintenance.</li> </ol>	<ul style="list-style-type: none"> <li>o <b>Not applicable.</b></li> <li>o Unit is not using any raw material having hazardous Characteristics/non-volatile solvent. Also there's no any process/flue gas emission is being generating from manufacturing division. Hence, there's no provision to monitored fugitive emission in work zone environment.</li> </ul>
<b>A4</b>	<b>SOLID/HAZARDOUS WASTE</b>	
41.	The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous & other wastes (Management and Transboundary) Rules 2016, as may be amended from time to time; Authorization of the GPCB must be obtained for collection/ treatment/ storage/ disposal of hazardous wastes.	<ul style="list-style-type: none"> <li>o <b>Complied.</b></li> <li>o Unit is in compliance with the rules and regulations with regards to handling and disposal of Hazardous waste and has obtained combined consent for Birla cellulosic and Birla excel plant under Water act-1974, Air act-1981 and Hazardous and other waste (Management and trans-boundary movements) rules, 2016 on 23.05.2019 &amp; amended same on 29.11.2019, which is valid</li> </ul>



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S. No	Conditions	Compliance Status
		up to 11.04.2024.
42.	Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.	<ul style="list-style-type: none"> <li>○ <b>Complied.</b></li> <li>○ Unit has allotted separate hazardous waste storage area having closed shed and pucca bottom according to the characteristics of waste. Photographs for hazardous waste storage is as below.</li> </ul>
	 	
43.	ETP waste & MEE salt shall be disposed of at the common TSDF site.	<ul style="list-style-type: none"> <li>○ <b>Noted.</b></li> <li>○ Generated ETP sludge is provided to cement manufacturer for co-processing to M/s. Ultra-Tech Cement, magdalla, Surat as stipulated in CCA.</li> </ul>
44.	Used Resin & Tow waste (Cellulose) shall be disposed off at the common TSDF site or CHWIF depending on the characteristics of the waste or shall be sent for co- processing.	<ul style="list-style-type: none"> <li>○ <b>Noted.</b></li> <li>○ During reporting period, generation of used resin is 0.3 Kl.</li> <li>○ Tow waste sold as a low grade fibre.</li> <li>○ The quantity of used resin is generated from VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</li> </ul>
45.	Discarded barrels / containers / bags / liners shall be either reused or returned back to supplier or sold only to the authorized vendors after decontamination.	<ul style="list-style-type: none"> <li>○ <b>Noted.</b></li> <li>○ Discarded barrels / containers / bags / liners is being sold to registered recycler authorized by GPCB. In the last six month 2030 no. Discarded barrels / containers / bags are sold.</li> <li>○ The quantity of Discarded barrels / containers / bags / liners is including the Discarded</li> </ul>

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S. No	Conditions	Compliance Status
		barrels / containers / bags / liners generated from VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.
46.	Used Oil shall be sold only to the registered recyclers.	<ul style="list-style-type: none"> <li>○ <b><u>Noted.</u></b></li> <li>○ Used/waste oil is being sold to registered recyclers authorized by GPCB. In the last six month 2.29 KL of waste oil is sold.</li> <li>○ The quantity of Used/waste is including the Used/waste oil generated from VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</li> </ul>
47.	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF.	<ul style="list-style-type: none"> <li>○ <b><u>Noted.</u></b></li> <li>○ There is no any hazardous waste generation from Solvent spun cellulosic fibre plant.</li> <li>○ Unit has obtained Membership certificate from BEIL-TSDF site for landfilling of hazardous material generating from VSF plant.</li> </ul>
48.	The ash shall be supplied to the manufactures of the ash based products such as cement, concrete blocks, bricks, panels, etc. The unit shall strictly comply with the Fly Ash Notification under EPA and it shall be ensured that there is 100 % utilization of ash be generated from the unit. Necessary records shall be maintained for this purpose and furnished to the GPCB from time to time.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Generated quantity of Fly ash sold to surrounding local Brick and Cement manufacturers as stipulated in the CCA.</li> <li>○ Summary for month-wise fly ash for reporting period is given in point no. 30.</li> <li>○ The quantity of Fly ash is including the fly ash generated from VSF manufacturing plant- Birla Cellulosic plant.</li> <li>○ Unit is being filled stipulated comprehensive report along with implementation report annually and being submitting to GPCB and MOEF and CC.</li> </ul>
49.	Continuous technical & quality control guidance shall be provided to actual users of fly ash to boost the utilization of fly ash.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Unit has arranged to impart technical guidance for more improvement of boosting the utilization of fly ash.</li> </ul>



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S. No	Conditions	Compliance Status
50.	Vehicles used for transportations of hazardous wastes shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.	o <b><u>Noted &amp; Complied.</u></b>
51.	All possible efforts shall be made for Co-processing of the hazardous waste prior to disposal into TSDF/CHWIF.	o <b><u>Complied.</u></b> o As prescribed in consent, the generated quantity of ETP sludge is being sold to cement manufactures for Co-Processing.
<b>A5</b>	<b>SAFETY</b>	
52.	The company shall strictly comply with the rules and regulations manufacture, storage and Import of Hazardous Chemicals rules, 1989 as amended.	o <b><u>Not applicable.</u></b> o None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.
53.	The project authorities shall strictly comply with the provisions made in manufacture, storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 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.	o <b><u>Not applicable.</u></b> o None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.
54.	Necessary precautions like continuous monitoring of hot spots (lignited coal) using temperature detection system, water sprinklers, avoiding stacking of coal near steam pipeline etc. shall be storing for coal to prevent fire hazard.	o <b><u>Noted and complied.</u></b>
55.	Storage of flammable chemicals shall be sufficiently away from the production area.	o <b><u>Not applicable.</u></b> o None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
56.	Sufficient no. of extinguishers shall be provided near the plant and storage area.	o <b><u>Complied.</u></b> o Unit has provided 1032 nos. of Extinguisher at BC plant and 234 nos. of Extinguisher at mfg. plant of Solvent spun cellulosic fibre are

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S. No	Conditions	Compliance Status
		being provided.
57.	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.</li> </ul>
58.	All the toxic/hazardous chemicals shall be stored in optimum quantity and all necessary permissions in regard shall be obtained before commencing the expansion activities.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.</li> </ul>
59.	The project management shall ensure to comply with all the environment protection measure, risk mitigation measure and safeguards mentioned in the Risk Assessment report.	<ul style="list-style-type: none"> <li>○ <b><u>Shall be comply.</u></b></li> </ul>
60.	Only flame proof electrical fitting shall be provided in the plant premises.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> </ul>
61.	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.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.</li> </ul>
62.	All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/dyke walls shall be provide for storage tanks for hazardous chemicals.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.</li> </ul>
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.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre. Hence, the rule is not applicable.</li> </ul>
64.	Personal Protective Equipment shall be provided to the workers and its usage shall be ensured and supervised.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> </ul>
65.	First Aid Box and Requires Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Unit has installed 11 no. of First aid kits at site and required antidotes available at the Hospital located in factory premises.</li> </ul>

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
66.	Training shall be Imparted to all the workers on safety and health aspects of chemicals handling.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Proper training to handle any emergency is being imparted to all employees and periodically experts are hired for training. Unit has made safety video for employees and visitors also. All important safety information contains guide templates provided and educate more about safety at work place.</li> </ul>
67.	Occupational Health surveillance of the worker shall be done and records shall be maintained. Pre-employment and periodically medical examination for the worker shall be undertaken as per Factories Act & Rules.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Unit conducts awareness programs on health by CMO and by ABG Emergency Code red.</li> <li>○ First aid training is being arranged on periodic interval, which covers all categories of employees, workmen.</li> <li>○ Medical is being done six monthly, for those employees who engaged in handling hazardous substances at work place area.</li> <li>○ All the Employees are covered under Health Survey, Template for Periodic and pre-joining medical checkup for each and every employee and Contractual worker is being done.</li> <li>○ Medical records of employees and contract workers are maintained online and individual person can see the read only data for current and past health record for himself only from any computer in Unit.</li> </ul>
68.	Transportations of hazardous chemicals shall be done as per provisions of the Motor Vehicle Act & Rules.	<ul style="list-style-type: none"> <li>○ <b><u>Noted.</u></b></li> <li>○ None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.</li> </ul>
69.	The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.	<ul style="list-style-type: none"> <li>○ <b><u>Noted &amp; Complied.</u></b></li> <li>○ Unit has prepared HIRA report and preventive and mitigation measure points are complying.</li> </ul>

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)**  
**and**  
**Coal based Captive Power Plant (CPP) (71 MW)**  
**Compliance of Environmental Clearance Conditions by**  
**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
70.	Necessary permission from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.	<ul style="list-style-type: none"> <li>○ <b><u>Not applicable.</u></b></li> <li>○ Unit has obtained factory license from DISH and there is no any hazardous chemicals are using in main process of Solvent spun cellulosic fibre so no need to take any permission from PESO.</li> </ul>
<b>A6.</b>	<b>NOISE</b>	
71.	The overall noise level in and around the plant areas shall be kept well within the standards by providing noise control and measure including engineering controls like acoustic insulations hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level confirm to the standard prescribed under The Environmental ( Protection) Act,1986 & Rules.	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ Unit is monitoring quarterly basis noise level in and around plant area as per the prescribed standard under Environment Act 1986.</li> <li>○ Acoustic enclosures and closed area are being provided for noise reduction.</li> <li>○ Noise level reading measurement results for the reporting period is given below:</li> </ul>

SR. NO.	Sampling Date	Location Name	Noise Results- Day	Noise Results- Night
1	07.07.2020	Entry Flap Gate	64-65 Db (A)	63-64
2		Pulper South Side	74-75 Db (A)	68-69
3		Spinning East Side	68-69 Db (A)	69-70
4		ETP West Side	64-65 Db (A)	60-61

<b>A7.</b>	<b>CLEANER PRODUCTION AND WASTE MINIMIZATION</b>			
72.	The unit shall undertake the Cleaner Production Assessment study through the reputed institute/ organization and shall form a CP team in the company. The recommendation thereof along with the compliance shall be furnished to the GPCB.	<ul style="list-style-type: none"> <li>○ <b><u>Shall be comply.</u></b></li> <li>○ Unit will take initiatives for cleaner production project once production ratio has been finalized as per mass balance.</li> </ul>		
73.	The company shall undertake various waste minimization measures including: a. Measuring and controls of quantities of active ingredients to minimize waste.	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ Few initiatives taken for waste minimization. ✓ PLC based effluent treatment plant established.</li> </ul>		

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**


**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
	b. Reuse of by-products from the process as raw material or as raw materials substitute. c. Use of automated and close filling to minimize spillages. d. Venting equipment through vapor recovery system. e. Use of high pressure hoses for cleaning to reduce wastewater generation. f. Recycling of steam condensate. g. Sweeping / mopping of floor instead of floor washing to avoid effluent generation. h. Regular preventing maintenance for avoiding leakage, spillages etc.	✓ Waste to be sold to cement units for co-processing activities. ✓ Raw materials and solvent tank made atomization for minimizing of spillage and leakages. ✓ Solvent recovery equipment is installed closed loops so that vapor will be collected in process. ✓ Sweeping and mopping machine has been procured for floor cleaning activities instead of floor washing and reduce the waste water generation. ✓ Unit has already planned scheduled maintenance stoppage so that leakages and spillage will be minimize.
<b>A8.</b>	<b>GREEN BELT AND OTHER PLANTATION</b>	
74.	The unit shall develop green belt within the premises as per the CPCB guidelines. However, adequate land is not available within the premises; the unit shall take up adequate plantation on road sides and suitable open areas in the vicinity or the open areas in consultation with the GPCB and submit an action plan of plantation for next three years to GPCB.	○ <b><u>Being complied.</u></b> ○ Green belt has been developed in the campus along the boundary wall and open spaces (80 ha). Totally ~1,85,000 trees have been planted in the premises in such a way that density of plantation is 1000 trees per acre and green belt of 30 meters width is developed.
75.	Drip irrigation / low – volume, low- angle sprinkle system shall be used for green belt development within the premises.	○ <b><u>Being complied.</u></b> ○ Unit is being utilized as treated sewage water to use as water sprinkling on green belt area through low-angle sprinkle system.
<b>B.</b>	<b>OTHER CONDITIONS:</b>	
76.	In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.	○ <b><u>Noted.</u></b> ○ The ETP has about 29 hrs. of contingency storage margin in the collection tank. Also, each equipment in ETP has its standby equipment which starts automatically in case of failure of the operating equipment. Therefore, in case of any failure in ETP there is sufficient margin to rectify the same. ○ Contingency plan for ETP is attached as

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and  
Coal based Captive Power Plant (CPP) (71 MW)  
Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
		<b><u>Annexure 2.</u></b>
77.	All the Recommendations / commitments made and mitigation measure proposed in the EIA reports of the project prepared by M/s: NEERI and submitted vide letter no NIL dated 29/05/2015 shall be implemented in letter and spirit.	o <b><u>Noted and shall be comply.</u></b>
78.	The project authority must strictly adhere to the stipulation made by the Gujarat Pollution Control Board (GPCB), state Government and any statutory authority.	o <b><u>Noted.</u></b> o All stipulations made by GPCB in various consent and authorizations are Being complied.
79.	During material transfer spillages shall be avoided and garland drain be constructed to avoid mixing of accidental spillages of domestic wastewater or storm water.	o <b><u>Complied.</u></b> o Unit has constructed material transfer dike, separate storm water and process drain also. so that there is no possibilities of mixing with any storm or waste water also.
80.	Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.	o <b><u>Complied.</u></b> o Unit has constructed pucca flooring along with secondary platform for waste, chemicals to minimize soil contamination. o Chemical storage area photographs are as below.
		
81.	Leakages from the pipes, pumps shall be minimal and if occurs, shall be arrested promptly.	o <b><u>Noted and shall be comply.</u></b>



**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
82.	No further expansion or modification in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.	<ul style="list-style-type: none"> <li>○ <b><u>Noted.</u></b></li> <li>○ No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.</li> </ul>
83.	The above conditions will be enforced, inter-alia under the provisions of the water (Prevention & control Pollution) Act, 1974 Air (Prevention & control Pollution), Act, 1981, The Environment (Protection) Act, 1986, Hazardous & other wastes (Management and trans boundary movement) Rules 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Unit is in compliance with the rules and regulations with regards to handling and disposal of Hazardous waste and has obtained combined consent for Birla cellulosic and Birla excel plant under Water act-1974, Air act-1981 and Hazardous and other waste (Management and trans boundary movements) rules, 2016 on 23.05.2019, same is valid up to 11.04.2024.</li> </ul>
84.	The project proponent shall have to 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.	<ul style="list-style-type: none"> <li>○ <b><u>Noted and shall be comply.</u></b></li> </ul>
85.	The project management shall ensure that unit companies with all the Environment protections measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report as well as proposed by project proponent.	<ul style="list-style-type: none"> <li>○ <b><u>Noted and shall be comply.</u></b></li> </ul>
86.	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ The funds earmarked for the environmental protection measures are being maintained and not diverted for other purpose.</li> <li>○ Unit has kept separate budget to meet the capital &amp; recurring cost for maintaining the environment -cost for all instrument, pipe line and ETP.</li> <li>○ A year wise expenditure on environment safeguards is being submitted to MOEF and CC at the end of each FY along with EC compliance report for the period of Oct to</li> </ul>

**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and**

**Coal based Captive Power Plant (CPP) (71 MW)**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
		<p>March of each year.</p> <ul style="list-style-type: none"> <li>Environment expenditure for FY-20 is submitted along with earlier compliance report.</li> <li>Unit is assured that will submit the Environment expenditure for FY-21 along with next compliance report for Oct-20 to March-21.</li> </ul>
87.	The applicant shall inform the public that the project has been accorded environment clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the website of SEIAA/ SEAC/ GPCB. This shall be advertised within the seven days from the date of the clearance letter, In at least two local newspapers that are widely circulated in the region, one of each shall be in the Gujarati language and other in English. A copy of each of the same shall be forwarded to the concerned Regional Office at the Ministry.	<ul style="list-style-type: none"> <li><b><u>Complied.</u></b></li> <li>Advertisement has been published within 7 days from the date of issue of the clearance letter and copy forwarded to Ministry's Regional Office at Bhopal.</li> </ul>
88.	The project proponent shall also comply with any additional conditions that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of environmental protection and management.	<ul style="list-style-type: none"> <li><b><u>Noted and shall be comply</u></b></li> </ul>
89.	It shall be mandatory for the project management, To submit half yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies of the regulatory authority concerned , on.1st June to 1st December of each calendar year.	<ul style="list-style-type: none"> <li><b><u>Being complied.</u></b></li> <li>We have submitted Half yearly compliance report to SEIAA on dated: 06.07.2020.</li> </ul>
90.	Concealing factor data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may results in withdrawal of this clearance and attract action under the provision of Environment (Protection) Act, 1986.	<ul style="list-style-type: none"> <li><b><u>Noted.</u></b></li> </ul>
91.	The project authorities shall be also adhere to the stipulations made by the Gujarat Pollution Control Board.	<ul style="list-style-type: none"> <li><b><u>Being complied.</u></b></li> </ul>



**Manufacturing of Solvent Spun Cellulosic Fiber (109500 MT/ Annum)  
and  
Coal based Captive Power Plant (CPP) (71 MW)  
Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic (A unit of Grasim Ind. Ltd.) At Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
92.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	○ <u>Noted and shall be abide.</u>
93.	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.	○ <u>Noted and shall be abide.</u>
94.	The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the data of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	○ <u>Noted and acknowledged.</u>
95.	This environmental clearance is valid for seven years from the date of issue.	○ <u>Noted.</u>
96.	Any appeal against this environmental 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	○ <u>Noted.</u>

**LIST OF ANNEXURES:-**

Annexure No.	Type of Document
I.	Analysis report of Sulphur- Coal
II.	Contingency plan for ETP



Nº 891014 A

ORIGINAL

International  
Independent Inspection  
&  
Testing Company

CERT NO: BRH-CRT-20-21-00098  
JOB NO: BRH-JB2021-000023

DATE: 17<sup>TH</sup> OCTOBER, 2020

**CERTIFICATE OF ANALYSIS REPORT**  
(On Submitted Samples)

**SAMPLE NOT DRAWN  
BY GEO-CHEM**

At the request of M/s. Birla Cellulosic (A unit of Grasim Industries Limited), Kharach, Kosamba; vide their Work Order No. 4700217448/209 dated 07.07.2020; we carried out analysis of COAL samples, which samples submitted us by M/s. Birla Cellulosic (A unit of Grasim Industries Limited), Kharach, Kosamba and our analysis findings are as under:

**CLIENT NAME :** M/s. Birla Cellulosic  
(A unit of Grasim Industries Limited),  
Kharach, Kosamba, Gujarat-394120

**WORK ORDER NO. :** 4700217448/209 dated 07.07.2020

**SAMPLE DESCRIPTION :** COAL

**ANALYSIS FINDINGS:**

We tested received COAL sample at our NABL accredited laboratory in accordance with relevant standard. Our analysis findings are as under.

Sulphur & Iron Contents:		
Sample Description:	Tested Parameters: Sulphur ADB)	Tested Parameters: Fe (Dry Basis)
	Method of Testing: ASTMD 4239-17	Method of Testing: IS 1355-1984
	Obtained Results	
SSA/FY21/92	0.28 %	0.31 %
SSA/FY21/93	0.21 %	0.18 %
SSA/FY21/94	0.36 %	0.24 %
SSA/FY21/95	0.35 %	0.17 %
SSA/FY21/96	0.32 %	0.19 %
SSA/FY21/97	0.92 %	0.32 %
SSA/FY21/98	1.14 %	0.40 %
SSA/FY21/99	1.24 %	0.59 %
SSA/FY21/100	1.12 %	0.42 %
SSA/FY21/101	0.91 %	0.37 %
SSA/FY21/102	0.75 %	0.46 %
SSA/FY21/103	0.58 %	0.26 %

The above report reflects our findings at the date, time, place & scope of intervention only, does not refer to any other matter and issued without prejudice.



For GEO-CHEM LABORATORIES PVT. LTD.

AUTHORISED SIGNATORY

This inspection / testing has been performed to the best of our ability and our responsibility is limited to the certificate, which is issued on conditions stipulated overleaf, reflects our findings at the time and place of inspection / testing and does not relieve parties from their contractual obligations. Samples will be retained by us for a period of sixty days only, unless specific instructions to the contrary are received.

GEO-CHEM LABORATORIES PRIVATE LIMITED, is not responsible for the authenticity of photocopied or computer scanned reports / certificates.

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REGD. OFF: GEO-CHEM LABORATORIES PRIVATE LIMITED, Geo-Chem House, 294, Shahid Bhagat Singh Road, Fort, Mumbai 400001, India.

Tel: +91 22 66383838 Fax: +91 22 66383800 Email: mumbai@geochem.net.in CIN: U74220MH1964PTC013022

www.geochem.net.in

### ETP Plant- Contingency Plan:

ETP Design flow rate	1200	m3/day
ETP present day flow rate	430	m3/day
Effluent generated per hour	18	m3/hr

<b>A) Final Effluent Collection Tank</b>		
Treated Effluent Storage Tank Capacity	400	m3
Present Level of Tank maintained	40	%
Maximum volume that can be stored in Tank	85	%
Storage margine in the Tank	180	m3
<b>B) Homogenizer Tank</b>		
ETP Homogenizer Tank Volume	1200	m3
Operating level Maintained in Homogenizer	70	%
Maximum volume that can be stored in Tank	85	%
Storage margine in homogenization Tank	180	m3

Total Storage margine (A+B)	360	m3
No of hours of margine available	20	hrs

### Contingency Plan:

1. ETP Plant is having 20 hr storage margine. This means in case of any breakdown (failure of pump/Agitator), we have 20 hours of margine to attend the equipment.
2. Each pump is having Working + Standby facility and change over is done automatically through PLC.
3. Belt press in ETP Plant is run for 8 hours in a day. So, in case of any failure in bag filter we will get sufficient time to rectify the system.
4. Air blowers for Oxidation Tanks & homogenization Tanks are having standby units.
5. ETP plant is fully automatic with dedicated PLC. Critical parameters of ETP Plant are monitored in DCS system. Plant performance is monitored on hourly basis and any deviation/breakdown is attended on priority.



Dated: 29.10.2020

The Advisor,  
Ministry of Environment, Forest and Climate Change  
Regional office, Western Region  
"Kendriya Paryavaran Bhavan"  
Link Road No.3, Ravishankar Nagar  
Bhopal-462016 (M.P)

**Subject: Half Yearly Compliance Report of Environmental Clearance Compliance Report for period of "April-20 to September-20".**

Dear Sir,

In view of above subject matter, Here, we are submitting the hard copy as well as soft copy of half yearly Environmental Clearance Compliance report along with copy of EC-2007, .No.J-11011/130/2006-IA II (I) Dtd: 15.01.2007 for the report period from "April-20 to September-20".

Hope, the same is in order.

Yours Faithfully,  
(For Birla Cellulosic)

  
Dharmesh Patel  
DH- Environment

Encl. :

1. EC Copy
2. EC-2007 Compliance report (April-20 to September-20)

CC To:

1. GPCB Regional office - Gujarat pollution control board, Plot No. 1501, GIDC, Ankleshwar
2. GPCB Head office - Gujarat pollution control board, Paryavaran Bhavan, CHH Road, Sector 10A, Gandhinagar, Gujarat 382010



**Birla Cellulose**  
Fibres from nature

Grasim Industries Limited  
Unit - Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.  
Dist. Bharuch (Gujarat) - 394 120 INDIA  
CIN : L17124MP1947PLC000410

Telephone +91 2646 270001-005, 270301-305  
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Email bc-kharach.info@adityabirla.com

Liaison Office : 11th Floor - 1101 & 1102 OCEAN, Opposite Vadodara Central Mall, Vikram Sarabhai Marg, Vadiwadi, Vadodara - 390023, Gujarat - India  
Regd. Office : P.O. Birlagram, Nagda (MP) - 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : [www.grasim.com](http://www.grasim.com)

F No J-11011/130/2006- I A II (I)  
**Government of India**  
**Ministry of Environment and Forests**  
**(I.A. Division)**

**Paryavaran Bhawan**  
**CGO Complex, Lodhi Road**  
**New Delhi – 110 003**

E-mail : pb.rastogi@nic.in  
Telefax : 011-24367688  
Dated 15<sup>th</sup> January 2007

To ✓  
Shri S V Kulkarni,  
Executive President  
M/s Birla Cellulose  
(A unit of Grasim Industries Ltd.)  
Brihadnam, Kharach  
Kosamba R S. - 394 120  
Bharuch, Gujarat

**Fax No. : 02646-270010 / 270310, 0265-2339626.**

**Sub : Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA and Captive Power Plant (CPP) from 15 MW to 25 MW at Kharach, Hansot, Bharuch, Gujarat by M/s Birla Cellulose Ltd. (A unit of Grasim Industry Ltd.) – Environmental clearance reg.**

Sr.

This has reference to your letter no. En/60-17/G/1/02 dated 14<sup>th</sup> March, 2006 wherein you have submitted an 'Application' alongwith project documents including EIA/EMP report, Questionnaire, Risk assessment and Disaster Management Plan etc seeking environmental clearance under the EIA Notification, 1994 and subsequent clarifications / additional information furnished vide your letters dated 4<sup>th</sup> May 2006 and 14<sup>th</sup> June 2006

2.0 The Ministry of Environment and Forests has examined your application. It is noted that proposal is for the expansion of existing Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA and Captive Power Plant (CPP) from 15 MW to 25 MW at Kharach, Hansot, Bharuch, Gujarat as per details given below

S.N.	Product (s)	Capacity of the plant		Total
		Existing	Proposed	
1	Viscose Staple Fibre (Main product)	60,000 TPA	67,750	1,27,750
2	Sodium Sulphate (By product)	38,400 TPA	57,600	96,000
3	Carbon-disulphide (CS <sub>2</sub> )	10,320 TPA	-	-
4	Sulphuric acid	66,000 TPA	-	-
5	Thermal Power Plant	15 MW	10 MW	25 MW

The existing plant is located in 242.8<sup>+</sup> ha. and no land will be required for the expansion project

3.6 CS<sub>2</sub> condensers, CS<sub>2</sub> recovery system, cyclone separators, SO<sub>2</sub> scrubber Sulphur recovery plant ESP and dust collectors will be provided to control fugitive and gaseous emissions. Appropriate technology will be used to achieve the notified standards for CS<sub>2</sub> and H<sub>2</sub>S. Total water requirement from River Kim will be 4.09 MGD (18,600 m<sup>3</sup>/d). No treated effluent will be discharged anywhere into surface / subsurface drains and / or into river Kim without prior approval from the GSPCB. Treated wastewater will be recycled and reused in the process or used for green belt development or for spraying coal/ash in power plant. ETP sludge and fly ash will be provided to cement and brick manufacturers respectively. Spent catalyst, Spent resin, Sulphur de-ashing sludge will be disposed off at TSDF of M/s Bharuch Enviro Infrastructure Ltd. at Ankleshwar, Bharuch, Gujarat. Waste oil will be sold to approved recyclers.

4.0 Public hearing meeting was held on 28<sup>th</sup> March, 2006. 'Consent to Establish' has been accorded by the Gujarat State Pollution Control Board (GSPCB) vide letter no. GPCB/BRCH/NOC-3241[CCA-295(4)]/0965 dated 19<sup>th</sup> April, 2006. Total cost of the project is Rs. 414.77 Crores.

5.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2005 subject to strict compliance of the following specific and general conditions.

**A. SPECIFIC CONDITIONS :**

- i. The gaseous emissions (SO<sub>2</sub>, NO<sub>x</sub>, HC) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- ii. The process emissions (SO<sub>2</sub> and CS<sub>2</sub>) shall be scrubbed by the caustic or wet scrubber from all the stacks. Electrostatic Precipitators (ESPs) shall be installed to control gaseous emissions. CS<sub>2</sub> condensers, CS<sub>2</sub> recovery system & cyclone separators shall be installed to control Sulfur sulphate dust. SO<sub>2</sub> scrubber Sulphur recovery plant shall be installed to control SO<sub>2</sub> emissions. Vents from scrubbers and condensers shall be periodically monitored and maintained as per the best practicable technology. The company shall monitor the CS<sub>2</sub> and H<sub>2</sub>S and data submitted to the Ministry.
- iii. The technology employed shall achieve standards notified by the Ministry for the Rayon Industry vide Gazette Notification No. 105 dated 16<sup>th</sup> October, 2006 regarding ambient air quality and stack emission norms for CS<sub>2</sub> and H<sub>2</sub>S. A report shall be submitted every six months to the Ministry's Regional Office at Bhopal / GPCB / CPCB on the emission levels. Provision shall be made for retrofit additional equipment if necessary in future.
- iv. The industry shall measure ambient air quality for CS<sub>2</sub> and H<sub>2</sub>S at the 3 ambient air quality monitoring stations set up in consultation with the GSPCB to ensure CS<sub>2</sub> and H<sub>2</sub>S emissions not to exceed 100 µg/m<sup>3</sup> and 150 µg/m<sup>3</sup>.
- v. Fugitive emissions in the work zone environment shall be periodically monitored with instruments of proper range and emissions shall conform to the standards prescribed by the GPCB. Action shall be taken to reduce the fugitive emissions in the work zone.



environment as far as possible. Dust collectors shall be provided at transfer points to control fugitive emissions.

- vi Total water requirement from River Kim shall not exceed 4.09 MGD (18 600 m<sup>3</sup>/d) as per the 'Permission' accorded by the Govt. of Gujarat. The wastewater shall be treated in the ETP through primary, secondary and tertiary treatment and disposed off in the pipeline of M/s Bharuch Environ Aqua Infrastructure Ltd. (BEAIL). Approval of the Gujarat Pollution Control Board shall be obtained for alteration in the routing of pipeline for disposal of effluent. The quality of the treated effluent shall conform to the standards prescribed by GPCB / EPA Rules. Efforts shall be made to recycle and reuse the treated wastewater in the process or used for irrigation, agricultural and horticultural purposes at the site. Treated effluent from captive power plant (CPP) shall be used for spraying coal/ash in power plant itself. No treated effluent shall be discharged anywhere into surface / subsurface drains and / or into river Kim without prior approval from the GPCB. Domestic wastewater shall be treated in STP and used for green belt development.
- vii The solid waste shall be segregated according to its calorific content and stored separately for treatment and disposal. Spent catalyst, Spent resin, Sulphur de-ashing sludge shall be disposed off at TSDF of M/s Bharuch Enviro Infrastructure Ltd. (BEAIL), Ankleshwar, Gujarat. ETP sludge shall be provided to cement manufacturers and properly disposed off and fly ash shall be provided to brick manufacturers. Used / waste oil shall be sold to authorized recyclers / reprocessors.
- viii Green belt of adequate width and density shall be developed in 70 ha out of the total 243 ha project area to mitigate the effect of fugitive emissions all round the plant. The development of green belt along the boundary wall, open space and avenue roads shall be provided in consultation with the local DFO as per the GPCB guidelines.
- ix Rainwater shall be harvested to conserve the fresh water and recharge the ground water and an action plan shall be submitted to the Ministry.
- x The project proponent shall comply with the environmental protection measures and safeguards recommended in EIA / EMP / Risk Analysis reports as well as the recommendations of the public hearing panel.
- xi The Company shall undertake eco-development measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan shall be submitted to the GPCB within three months of receipt of this letter for approval.
- xii As mentioned in EIA/EMP, Rs. 20.56 Crores and Rs. 6.27 Crores earmarked towards the capital cost and recurring cost/annum respectively for the environmental pollution control measures shall be used exclusively to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government. A time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bhopal. The funds shall not be diverted for any other purposes.

## **B. GENERAL CONDITIONS :**

- i. The project authorities must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board (GPCB) and the State Government
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess adequacy of the conditions imposed and to add additional environmental protection measures required, if any
- iii. Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the GPCB. Regular monitoring shall be carried out for relevant parameters.
- iv. The project authorities must strictly comply with the rules and regulations under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000. Prior approvals of Chief Inspector of Factories, Chief Inspector of Explosives, Fire Safety Inspectorate etc. must be obtained.
- v. 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, 2000. Authorization from the GPCB must be obtained for collection, storage, treatment and disposal of hazardous wastes.
- vi. 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 the Environment (P) Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- vii. Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. First aid facilities in the Occupational Health Care Centre shall be strengthened and medical records of each employee shall be maintained separately.
- viii. A separate Environment Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and monitoring functions.
- x. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report
- x. The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office at Bhopal / GPCB / CPCB. A six monthly compliance status report should be submitted to monitoring agencies.
- xi. The Project Proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the Gujarat Pollution Control Board / Committee and may also be seen at Website



of the Ministry and Forests at <http://envfor.nic.in>. The advertisement shall be made within 7 days from the date of issue of the clearance letter and a copy of the same shall be forwarded to the Ministry's Regional Office at Bhopal.

- xii The Project Authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

6.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

7.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.

8.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 alongwith their amendments and rules.

  
(Dr. P.B. Rastogi)  
Additional Director

Copy to

1. The Secretary, Department of environment and forests, Govt. of Gujarat, Gandhi Nagar, Gujarat.
2. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (West), Lrk Road No. 3, E - 5, Arera Colony, Bhopal - 462 016, M. P.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhi Nagar - 382 015, Gujarat.
5. JS (CCI-I), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan CGO Complex, New Delhi.
7. Guard File.
8. Monitoring File.
9. Record File.

  
(Dr. P.B. Rastogi)  
Additional Director

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

**Name of Project** : Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA & Captive Power Plant (CPP)

**EC letter no. & Date** : F.No.J-11011/130/2006-IA II (I) Dtd: 15.01.2007

**Address for Correspondence** : M/s. Birla Cellulosic (A Unit of Grasim Industries Ltd.)  
Birladham, Village: Kharach, Kosamba (R.S.),  
Tehsil: Hansot, Bharuch (Gujrat) – 394120

**Duration/Reporting period** : April-20 to Sept-20

S. No.	Compliance conditions by MoEF & CC	Action Taken by Birla Cellulosic																																																
A.	SPECIFIC CONDITIONS																																																	
i.	<p>The gaseous emissions (SO2, NOx, HC) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ The gaseous emissions (SO2, NOx) and particulate matter generates from power plant unit and CS2, H2S, SO2 and acid mist gaseous emission generates from CS2 &amp; Acid plant process which conforms to the standards prescribed by the concerned authorities from time to time.</li><li>○ A Summary for Flue gas emission from stack for the reporting period is given below:<table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM</td><td>mg/ nm3</td><td>100/ 50</td><td>52.80</td><td>37.94</td><td>45.37</td></tr><tr><td>SO2</td><td>mg/ nm3</td><td>600</td><td>311</td><td>228</td><td>269.5</td></tr><tr><td>NOx</td><td>mg/ nm3</td><td>600</td><td>117</td><td>84.25</td><td>100.63</td></tr></table></li><li>○ A Summary for process gas emission from stack for the reporting period is given below:<table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max</th><th>Min</th><th>Avg</th></tr><tr><td>CS2</td><td>Kg/T of Fibre</td><td>125</td><td>91.42</td><td>72.59</td><td>82</td></tr><tr><td>SO2 (Acid plant)</td><td>Kg/T of 100% Acid</td><td>02</td><td>0.98</td><td>0.65</td><td>0.82</td></tr><tr><td>Acid Mist</td><td>mg/Nm3</td><td>25</td><td>21.74</td><td>6.32</td><td>14.03</td></tr></table></li><li>○ Vents from scrubbers and condensers are monitored periodically and CS2 &amp; H2S are being regularly monitored by the in-house laboratory (internal laboratory) and NABL accredited Laboratory on monthly basis &amp; the data is submitted to the Ministry along with half-yearly EC compliance report.</li><li>○ No HC is being emitted from Birla cellulosic.</li><li>○ Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly monitoring of Stack concentration as well as ambient air quality,</li></ul>	Para.	Unit	Std.	Max.	Min.	Avg.	PM	mg/ nm3	100/ 50	52.80	37.94	45.37	SO2	mg/ nm3	600	311	228	269.5	NOx	mg/ nm3	600	117	84.25	100.63	Para.	Unit	Std.	Max	Min	Avg	CS2	Kg/T of Fibre	125	91.42	72.59	82	SO2 (Acid plant)	Kg/T of 100% Acid	02	0.98	0.65	0.82	Acid Mist	mg/Nm3	25	21.74	6.32	14.03
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**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

		<p>as per the monitoring conducted by their team, The results are well within the prescribed norms as per consent condition.</p> <ul style="list-style-type: none"><li>○ At no time, the emission levels exceed beyond the stipulated standards.</li><li>○ Multiple gas sensors and alarm systems Inter-linking with the pollution control Equipments/units have been provided so that early indication of malfunctioning can be detected and control measures can be taken accordingly. In case of any event of completely failure of pollution control equipment, the respective unit(s) is stopped.</li><li>○ There has been no event of failure of pollution control systems in the last six months.</li></ul>																												
ii.	<p>The process emissions (SO2 and CS2) shall be scrubbed by the caustic or wet scrubber from all the stacks. Electrostatic Precipitators (ESPs) shall be installed to control gaseous emissions. CS2 condensers, CS2 recovery system &amp; cyclone separators shall be installed to control Sodium sulphate dust. SO2 scrubber, Sulphur recovery plant shall be installed to control SO2 emissions. Vents from scrubbers and condensers shall be periodically monitored and maintained as per the best practicable technology. The company shall monitor the CS2 and H2S and data submitted to the Ministry.</p>	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ The mitigation measures adopted to control emissions for CS2/H2S concentration in ambient air is given below.</li></ul> <table><tr><th>S.no.</th><th>Process</th><th>Emission</th><th>Mitigation Measures</th></tr><tr><td>1.</td><td>Sulfuric Acid Plant (2 nos)</td><td>SO<sub>2</sub></td><td>2 - Stage Alkali (Caustic) Scrubber</td></tr><tr><td>2.</td><td>CS2 Plant</td><td>CS2/ H2S</td><td>Sulphur Recovery system</td></tr><tr><td>3.</td><td>Sulphur Recovery Plant</td><td>SO<sub>2</sub></td><td>Alkali (Caustic) Scrubber</td></tr><tr><td>4.</td><td>Spinning Machine (4 nos)</td><td>CS2</td><td>CS2 recovery system having a water scrubber and 3-stage condensers for recovering CS2</td></tr><tr><td>5.</td><td>Sodium Sulphate Recovery plant</td><td>Sodium Sulphate dust</td><td>Cyclone Separator &amp; Water scrubber</td></tr><tr><td>6.</td><td>Boiler</td><td>Gaseous Emission</td><td>ESP</td></tr></table>	S.no.	Process	Emission	Mitigation Measures	1.	Sulfuric Acid Plant (2 nos)	SO <sub>2</sub>	2 - Stage Alkali (Caustic) Scrubber	2.	CS2 Plant	CS2/ H2S	Sulphur Recovery system	3.	Sulphur Recovery Plant	SO <sub>2</sub>	Alkali (Caustic) Scrubber	4.	Spinning Machine (4 nos)	CS2	CS2 recovery system having a water scrubber and 3-stage condensers for recovering CS2	5.	Sodium Sulphate Recovery plant	Sodium Sulphate dust	Cyclone Separator & Water scrubber	6.	Boiler	Gaseous Emission	ESP
S.no.	Process	Emission	Mitigation Measures																											
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6.	Boiler	Gaseous Emission	ESP																											
iii.	<p>The technology employed shall achieve standards notified by the Ministry for the Rayon Industry vide Gazette Notification</p>	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ The technology employed has already achieved standards notified by the Ministry for the Rayon</li></ul>																												

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

No. 195 dated 16<sup>th</sup> October, 2006 regarding ambient air quality and stack emission norms for CS<sub>2</sub> and H<sub>2</sub>S. A report shall be submitted every six months to the Ministry's Regional Office at Bhopal / GPCB / CPCB on the emission levels. Provision shall be made for retrofit additional equipment if necessary in future.

Industry vide Gazette Notification No. 195 dated 16th October, 2006 regarding ambient air quality and stack emission norms for CS<sub>2</sub> and H<sub>2</sub>S.

- A Summary for process gas emission from stack for the reporting period is given below:

Para.	Unit	Std.	Max	Min	Avg
CS <sub>2</sub>	Kg/T of Fibre	125	91.42	72.59	82
SO <sub>2</sub> (Acid plant)	Kg/T of 100% Acid	02	0.98	0.65	0.82
Acid Mist	mg/Nm <sup>3</sup>	25	21.74	6.32	14.03

- A Summary for Ambient Air quality for the reporting period is given below:

Para.	Unit	Std.	Max.	Min.	Avg.
CS <sub>2</sub>	µg/m <sup>3</sup>	100	20.33	12.51	14.83
H <sub>2</sub> S	µg/m <sup>3</sup>	150	23.19	11.10	17.15

- Every six monthly compliance report is being submitted to Regional Office of MOEF & CC, Bhopal. Compliance report for the period of Oct-19 to March-20 was submitted on 07.07.2020.

iv.

The industry shall measure ambient air quality for CS<sub>2</sub> and H<sub>2</sub>S at the 3 ambient air quality monitoring stations set up in consultation with the GSPCB to ensure CS<sub>2</sub> and H<sub>2</sub>S emission not to exceed 100 µg/m<sup>3</sup> and 150 µg/m<sup>3</sup>.

- **Being complied.**
- Unit has installed online 3 nos. of AAQMS system in plant premises with the consultation with GPCB officers and 3 other AAQMS system installed at down wind direction area and regularly checking the parameters of CS<sub>2</sub>, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.
- A Summary for CS<sub>2</sub>/H<sub>2</sub>S concentration from stack and ambient air for the reporting period is given below:

Month	Process	Ambient	
	CS <sub>2</sub> (Kg/ToF)	CS <sub>2</sub> (µg/m <sup>3</sup> )	H <sub>2</sub> S (µg/m <sup>3</sup> )
	125	100	150
April-20	0*	0*	0*
May-20	72.59	12.51	11.10
June-20	75.22	20.33	22.17
July-20	90.24	18.04	23.19

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

		<table><tr><td>Aug-20</td><td>80.52</td><td>17.97</td><td>17.52</td></tr><tr><td>Sept-20</td><td>91.42</td><td>20.12</td><td>14.78</td></tr></table> <p>(Note- (*- Due to lockdown the plant was not in operation. Hence, Analysis not conducted.))</p>	Aug-20	80.52	17.97	17.52	Sept-20	91.42	20.12	14.78																								
Aug-20	80.52	17.97	17.52																															
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v.	Fugitive emissions in the work zone environment shall be periodically monitored with instruments of proper range and emissions shall conform to the standards prescribed by the GPCB. Action shall be taken to reduce the fugitive emissions in the work zone environment as far as possible. Dust collectors shall be provided at transfer points to control fugitive emissions.	<ul style="list-style-type: none"><li>o <b><u>Being complied.</u></b></li><li>o Regularly monitoring of fugitive emission of CS<sub>2</sub>, H<sub>2</sub>S and SO<sub>2</sub> in work zone environment is being done by an in house laboratory.</li><li>o A Summary of Work area air quality for the reporting period is given below:</li></ul> <table><tr><th>Area</th><th>CS<sub>2</sub> (ppm)</th><th>H<sub>2</sub>S (ppm)</th><th>SO<sub>2</sub> (ppm)</th></tr><tr><td>Std. (As per GFR)</td><td>10</td><td>10</td><td>2</td></tr><tr><td>Refinery- CS<sub>2</sub> Area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>Furnace- CS<sub>2</sub> Area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.1 Ave: 1.05</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>Rayon plant</td><td>Min:00 Max: 2.3 Ave: 1.15</td><td>Min:00 Max: 2.6 Ave: 1.3</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>Spin Bath- Auxillary area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.4 Ave: 1.2</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>MSFE- Auxillary area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.4 Ave: 1.2</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>Anhydra-tion &amp; Crystalization Auxillary</td><td>Min:00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.1 Ave: 1.05</td><td>Min: 0.7 Max: 1.2 Ave: 0.95</td></tr></table>	Area	CS <sub>2</sub> (ppm)	H <sub>2</sub> S (ppm)	SO <sub>2</sub> (ppm)	Std. (As per GFR)	10	10	2	Refinery- CS <sub>2</sub> Area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 00 Ave: 00	Furnace- CS <sub>2</sub> Area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.1 Ave: 1.05	Min: 00 Max: 00 Ave: 00	Rayon plant	Min:00 Max: 2.3 Ave: 1.15	Min:00 Max: 2.6 Ave: 1.3	Min: 00 Max: 00 Ave: 00	Spin Bath- Auxillary area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00	MSFE- Auxillary area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00	Anhydra-tion & Crystalization Auxillary	Min:00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.1 Ave: 1.05	Min: 0.7 Max: 1.2 Ave: 0.95
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**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA  
&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

		Acid plant	Min:00 Max: 2.7 Ave: 1.35	Min: 2.5 Max: 00 Ave: 1.25	Min: 00 Max: 00 Ave: 00
		Xanthator- Viscose area	Min: 00 Max: 2.5 Ave: 1.25	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 01 Ave: 0.03
		Ripening- Viscose area	Min: 00 Max: 2.7 Ave: 1.35	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		Washing- Viscose area	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		<ul style="list-style-type: none"> <li>○ Fugitive emissions in the work zone environment are being controlled by exploring techniques like Motorized shutter &amp; suction hoods on spinning machines &amp; cutters, shutters for stretch roller &amp; gear box and perfect sealing of all the openings in various tanks of spin bath.</li> <li>○ Provision of fresh air by induced draft fans is in place at the spinning machines for ease of working.</li> <li>○ Online gas detectors installed in the work zone around the spinning machines. Motorized shutters and completely closed after treatment machine with suction duct are there to control fugitive emission.</li> <li>○ Dust collection systems are provided with cyclones to collect the charcoal dust generated by feeding of charcoal into the CS2 manufacturing process.</li> <li>○ The charcoal and coal belt conveyors are fully sealed with provision of water spray.</li> <li>○ Cyclone separators &amp; Water scrubbers are provided for scrubbing out of sodium sulphate dust from the salt dryer exhaust air to avoid dust emission.</li> </ul>			

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

vi. Total water requirement from River Kim shall not exceed 4.09 MGD (18,600m<sup>3</sup>/d) as per the 'Permission' accorded by the Govt. of Gujarat. The wastewater shall be treated in the ETP through primary, secondary and tertiary treatment and disposed of in the pipeline of M/s Bharuch Enviro. Aqua Infrastructure Ltd. (BEAIL).

Approval of the Gujarat Pollution Control Board shall be obtained for alteration in the routing of pipeline for disposal of effluent.

The quality of the treated effluent shall conform to the standards prescribed by GPCB / EPA Rules. Efforts shall be made to recycle and reuse the treated waste water in the process or used for irrigation, agricultural and horticultural purposes at the site. Treated effluent from captive power plant (CPP) shall be used for spraying coal/ash in power plant itself. No treated effluent shall be discharged anywhere into surface/subsurface drains and / or into river Kim without prior approval from the GPCB. Domestic wastewater shall be treated in STP and used for green belt development.

○ **Noted & Complied.**

- An agreement with Irrigation Department has been made for water withdrawal @ 18588 M<sup>3</sup>/day.
- A Summary of water Consumption for the reporting period is given below:

Month	Quantity (M <sup>3</sup> )
April-20	241556
May-20	427912
June-20	477660
July-20	472716
Aug-20	467866
Sept-20	496131
Total	2583841
<b>Average (M<sup>3</sup>/Day)</b>	<b>14119</b>

- The Half- yearly average water Consumption is 14119 M<sup>3</sup>/day, which is less than the quantity mentioned in Agreement.
- A full-fledged effluent treatment plant comprising of primary treatment of neutralization, settling facility and secondary treatment of biological system based on extended aeration activated sludge process has been installed. The waste water from the plant is treated in this well-established ETP.
- Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly monitoring of The waste water from the plant and township is/ treated in the well-established ETP and STP, as per the monitoring conducted by their team.
- The results are well within the prescribed norms as per consent condition.
- A separate 24 KM long underground pipeline for discharging the treated effluent in the estuary of Kim River as approved by GPCB. The disposal point was suggested by NIO, Goa is 2007.
- There was a typographical error regarding the disposal of effluent from using the pipeline of Bharuch Enviro Infrastructure Ltd. (BEIL) in the letter issued by MoEFCC. We requested MoEFCC for correction vides our letter dated 9th April 2007.

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA****&****Captive Power Plant (CPP) from 15 MW to 25 MW****Compliance of Environmental Clearance Conditions by****M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

- A full-fledged in-house laboratory is established to monitor the parameters round the clock. The quality of treated effluent is also monitored by NABL accredited Laboratory on monthly basis.
- The Sewage water from the plant and township is treated in the well-established STP and recycled.
- A Summary of treated effluent for the reporting period is given below:

Para.	Unit	Std.	Max.	Min.	Avg.
pH	-	7.5	8.36	7.7	8
Temp.	°C	40	31	29	30
COD	mg/l	250	198	170	184
BOD	mg/l	100	40	28	34
Amm. N	mg/l	50	13.8	8.3	11.1
Zinc	mg/l	10	0.72	0.22	0.47
Color	Unit	100	50	30	40
SS	mg/l	100	42	19	30.5

- A Summary of treated Domestic sewage for the reporting period is given below:

Parameter	Unit	Std	Max.	Min.	Avg.
TSS	mg/l	<30	28	12	20
BOD	mg/l	<20	18	13	15.5
Resi. Chlorine	mg/l	Min 0.5	0.8	0.6	0.7
COD	mg/l	-	84	65	74.5
Nitrogen	mg/l	-	7.6	4.5	6.05
Fecal coliform	mg/l	-	640	350	495
pH	-	-	7.6	7.34	7.47

- A Summary of Dept. wise water recycling for the reporting period is given below:



**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

Dept. Name	April-20	May-20	Jun-20	July-20	Aug-20	Sept-20	Remarks
Viscose	0	0	0	0	0	236	MSFE RO Permeate & Vacuum pump to Filter Press (Scheme implemented in Sept-20)
Spinning & After treatment	1944	2199	4470	5199	5143	5157	Condenser water as wash water. scrubber water to cutter ventury, scrubber water recycle, scrubber water to 1st wash
Auxiliary	340	880	2530	2842	2779	2216	MSFE RO reject is used in Aux. Cooling tower. MSFE RO permeate is used in vacuum pump water recycled to CT make up- Recycled back to CT
CS2 Plant / Acid	0	30	144	145	147	146	Treated ETP water is used in SRP scrubber, Refined tank overflow water for crude tank pressing
Acid Plant	0	114	297	339	355	360	Condensate from Triple effect Evaporator & Drum Dryers used to make steam in Acid plant
WTP	482	1163	1336	1254	1271	1310	Sand Filter + DM backwash, fiber dryer condensate
ETP	0	627	1209	1233	1228	1271	Reject from MSFE RO for belt press & lime preparation, treated ETP for lime preparation
MSFE RO	0	1208	2070	2009	1825	1766	MSFE RO permeate to WTP
Total (M3/Day)	2996	6220	12056	13021	12748	12462	-

Note: Due to COVID-19, The average water recycling, for the month of April and May is less, compare to other months.

vii.	<p>The solid waste shall be segregated according to its calorific content and stored separately for treatment and disposal. Spent catalyst, Spent resin, Sulphur de-ashing sludge shall be disposed of at TSDF of M/s Bharuch Enviro Infrastructure Ltd. (BEIL), Ankleshwar, Gujarat. ETP sludge shall be provided to cement manufacturers and properly disposed of and fly ash shall be provided to brick manufacturers. Used/</p>	<p>○ <b><u>Being complied.</u></b></p> <p>○ All the wastes are segregated according to its composition and stored separately for treatment/disposal.</p> <p>○ Generated ETP sludge is provided to cement manufacturers as stipulated in CCA.</p> <p>○ Generated Fly ash is provided to surrounding local Brick and Cement manufacturers for Co-processing as stipulated in the CCA.</p>
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**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

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waste oil shall be sold to authorized recyclers/ preprocessors.

○ A Summary month-wise disposal quantity of ETP sludge and fly ash for the reporting period is given below:

S. No.	Month	Gypsum Sludge Quantity (MT)	Ash Quantity (MT)
1	April-20	0	40.51
2	May-20	522.65	963.38
3	June-20	108.39	3911.90
4	July-20	0	4820.24
5	Aug-20	0	1890.82
6	Sept-20	0	5944.69

○ Used/waste oil is being sold to M/s. I-Engineering world, who are recyclers authorized by GPCB. In the last six month 2.29 KL of waste oil is sold.

**Hazardous Waste Treatment and Disposal Facilities**

Type of waste	Schedule No.	Treatment	Disposal practice
<b>Solid Waste</b>			
ETP Sludge	34.3	De-watering on belt press & drying. Stored under Gypsum storage shed area.	Disposal at TSDF BEIL, or Sold to M/s Ambuja or M/s Ultra tech cement
Spent Catalyst	17.2	Stored in Drums and Encapsulate during disposal	Disposed at TSDF, BEIL, Ankleshwar
Spent Resin	34.2	Stored in drums and neutralize	Disposed at TSDF, BEIL, Ankleshwar
Sulphur Deashing sludge	17.2	Stored in storage rooms which is fully covered	Disposed at TSDF, BEIL, Ankleshwar
Discarded containers and Liners	33.3	Decontamination is done at user point in Unit	Sold to approved recycler as per guidelines of CC&A.
HDPE Bags	33.3	Collected and stored in room	Sold to approved recycler as per guidelines of CC&A.
Used oil	5.1	Collected and stored in drums	Sold to approved recycler as per guidelines of CC&A.

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viii.	Green belt of adequate width and density shall be developed in 70 ha out of the total 243 ha project area to mitigate the effect of fugitive emissions all round the plant. The development of green belt along the boundary wall, open space and avenue roads shall be provided in consultation with the local DFO as per the CPCB guideline.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Green belt has been developed in the campus along the boundary wall and open spaces (80 ha). Totally 1,85,000 trees have been planted in the premises in such a way that density of plantation is 1000 trees per acre and green belt of 30 meters width is developed.</li><li>○ As per the directives of DoEF, Mangroves have been planted in 100 Ha. At Raniyo Island spending to Rs. 20.00 Lacs.</li></ul>
ix.	Rainwater shall be harvested to conserve the fresh water and recharge the ground water and an action plan shall be submitted to the Ministry.	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ Rainwater is being harvested to conserve the fresh water and recharge the ground water. In the Monsoon season approx. 364350 M3 was conserved.</li><li>○ Unit is being submitting Monsoon action plan to GPCB every year.</li></ul>
x.	The project proponent shall comply with the environmental protection measures and Safeguards recommended in EIA / EMP / Risk Analysis reports as well as the recommendations of the public hearing panel.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ We are complying with all the environmental protection measures and safeguards recommended in EIA / EMP / Risk Analysis Reports.</li></ul>
xi.	The Company shall undertake eco-development measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan shall be submitted to the GPCB within three months of receipt of this letter for approval.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ Various Eco development measures in and around 32 villages have been undertaken. Our main focus has been in following 4 areas:</li><li>○ Education:<ul style="list-style-type: none"><li>✓ Pre School Education</li><li>✓ School Development work</li><li>✓ Education Support Project</li><li>✓ Vocational &amp; Technical Education Project</li><li>✓ School Infrastructure</li></ul></li><li>○ Health Care:<ul style="list-style-type: none"><li>✓ Preventive Health Care</li><li>✓ Curative Health Care</li><li>✓ Reproductive and Child Health</li><li>✓ Health Support Program</li><li>✓ Health Infrastructure</li><li>✓ Blood donation camp</li></ul></li><li>○ Infrastructure Development:<ul style="list-style-type: none"><li>✓ Roads/Culverts/Bridges/Bus Stands</li><li>✓ Community Halls</li></ul></li></ul>

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		<ul style="list-style-type: none"> <li>✓ Other Community Assets works</li> <li>✓ RO plant has been installed.</li> <li>○ Social activities: <ul style="list-style-type: none"> <li>✓ Institutional building &amp; strengthening</li> <li>✓ Awareness programs</li> <li>✓ Social Events</li> <li>✓ Promotion of heritage/culture/Sports</li> <li>✓ Disaster Relief Programs.</li> </ul> </li> <li>○ Unit has developed green belt area in and around plant premises, and obtained certificate from DFO and same is submitted to GPCB from the receipt of this order.</li> </ul>
○ xii .	○ As mentioned in EIA/EMP, Rs.20.56 Crores and Rs.6.27 Crores earmarked towards the capital cost and recurring cost/annum respectively for the environmental pollution control measures shall be used exclusively to implement the condition stipulated by the Ministry of Environment & Forests as well as the State Government. A time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bhopal. The funds shall not be diverted for any other purposes.	<ul style="list-style-type: none"> <li>○ <b><u>Being complied.</u></b></li> <li>○ As committed in the EIA / EMP, unit has installed following key equipment for pollution control. <ul style="list-style-type: none"> <li>✓ ESP with four field for boiler # 3.</li> <li>✓ SOX / NOX /SPM for stack # 2.</li> <li>✓ Sump zone # 3, Belt press # 4 and one mono belt pres.</li> <li>✓ Primary clarifier # 2</li> <li>✓ Secondary clarifier # 2.</li> <li>✓ Both Acid plant stack height was increased from 40 to 50 M.</li> <li>✓ Gypsum shed was constructed.</li> </ul> </li> <li>○ A time bound implementation schedule for implementing all the conditions stipulated here has been submitted to the Ministry's Regional Office at Bhopal.</li> <li>○ The funds earmarked for the environmental protection measures are being maintained and not diverted for other purpose.</li> <li>○ A year wise expenditure on environment safeguards is being submitted to MOEF and CC at the end of each FY along with EC compliance report for the period of Oct to March of each year.</li> <li>○ Environment expenditure for FY-20 is submitted along with earlier compliance report.</li> <li>○ Unit is assured that will submit the Environment expenditure for FY-21 along with next compliance report for Oct-20 to March-21.</li> </ul>
<b>GENERAL CONDITIONS</b>		
i.	The project authorities must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ All stipulations made by GPCB in various consent and authorizations are strictly complied.</li> </ul>

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	(GPCB) and the State Government.	
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess adequacy of the conditions imposed and to add additional environmental protection measures required, if any.	<ul style="list-style-type: none"><li>○ <b><u>Noted.</u></b></li><li>○ No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.</li></ul>
iii.	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the GPCB. Regular monitoring shall be carried out for relevant parameters.	<ul style="list-style-type: none"><li>○ <b><u>Complied.</u></b></li><li>○ There are 3 locations for influent quality monitoring stations and 1 location for effluent quality monitoring station finalized in consultation with the GPCB.</li><li>○ Influent quality monitoring stations are located at Grit Chamber, Primary Outlet and Secondary outlet and effluent quality monitoring station which is located at Final Outlet.</li><li>○ Results are enclosed in reply of point no. vi.</li></ul>
iv.	The project authorities must strictly comply with the rules and regulations under the manufacture, storage and import of Hazardous chemicals Rules, 2000. Prior approvals of Chief Inspector of Factories, Chief Inspector of Explosives, Fire Safety Inspectorate etc. must be obtained.	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ Approval for chlorine storage of 10 ton has been obtained from PESO on 26th September-2018 and valid up to 30-Sep-2023.</li><li>○ Unit has valid factory license #6059 and registration# 165/17114/1997 dated 15-oct-2016 and valid up to 31-Dec-2021.</li></ul>
v	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 2000. Authorization from the GPCB must be obtained for collection, storage, treatment and disposal of hazardous wastes.	<ul style="list-style-type: none"><li>○ <b><u>Being complied.</u></b></li><li>○ CCA wide consent order no. AWH-104181 on dated: 29.11.2019 for production of VSF @ 156950 MT/Year has been obtained from GPCB under Hazardous and other waste rules-2016.</li><li>○ Hazardous waste Rules is fully complying as per the consent stipulated norms.</li></ul>

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA****&****Captive Power Plant (CPP) from 15 MW to 25 MW****Compliance of Environmental Clearance Conditions by****M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

vi	<p>The overall noise levels in and around the plant area shall be kept well within the standard (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.</p> <p>The ambient noise levels shall conform to the standards prescribed under Environment(P) Rules,1989 viz.75 dBA (day time) and 70 dBA (night time)</p>	<p>○ Quarterly monitoring the noise level in and around the plant area is being conducted.</p> <p>○ A Summary of noise level monitoring for the reporting period is given below:</p>
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NOISE LEVEL MEASUREMENT						
Month			Jun-20		Sep-20	
Sr. No.	Location	Department	dBA	dBA	dBA	dBA
			Day	Night	Day	Night
1	Simplex room line 1&2	Viscose	54	59	52	60
2	Simplex room line 3&4	Viscose	59	61	59	68
3	Office area Viscose and MIS	Viscose	45	52	48	50
4	Near Maturing Drum	Viscose	57	63	52	63
5	Pulper Operator	Viscose	56	60	51	64
6	Sodastation Office	Viscose	44	55	48	54
7	Sodastation Area	Viscose	55	62	59	63
8	GDP area	Viscose	63	68	60	68
9	Blower room (Top Floor)	Viscose	65	69	58	67
10	Road between Viscose and Spinning	-	44	49	43	61
11	Bailing Press area line-1&2	Spinning	56	62	56	64
12	Bailing Press area line-1	Spinning	32	62	54	65
13	Dryer Office	Spinning	42	45	42	61
14	Fine Opener Line # 2	Spinning	41	46	58	65
15	Bailing Press area line-3	Spinning	58	61	57	63
16	Bailing Press area line-4	Spinning	58	61	55	67
17	Fine Opener Line # 3	Spinning	62	64	62	66
18	Fine Opener Line # 4	Spinning	59	63	64	68
19	Dryer # 3	Spinning	59	62	60	63
20	Dryer # 4	Spinning	57	62	57	64
21	Dryer # 3 & 4 cabin	Spinning	48	51	50	53
22	Aft treatment Operator Line 3&4 cabin	Spinning	49	52	49	57
23	Aft treatment Operator Line 1&2	Spinning	64	68	59	64
24	Spinning M/C-2	Spinning	59	65	62	65
25	Jet room # 3, 4	Spinning	52	59	58	55

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26	Spg office line 3 & 4	Spinning	43	50	49	52
27	Spinning M/C-3	Spinning	59	63	60	65
28	Spinning M/C-4	Spinning	61	61	59	62
29	Pump House	Fire Stn.	50	57	54	58
30	Acid plant (Control room inside)	Acid Plant	40	44	40	46
31	Blower Old Plant (Outside)	Acid Plant	63	68	61	65
32	Blower (New Plant)	Acid Plant	63	69	63	68
33	Offices (Acid )	CS2/Acid plant	39	43	48	45
34	Ammonia Compressor # 3 area	CS2 Refinery	66	69	60	65
35	Ammonia Compressor # 1 area	CS2 Refinery	63	67	59	68
36	Near Chiller Area	CS2 Refinery	58	62	57	65
37	H2S Gas holder area	CS2 plant	49	54	50	57
38	CS2 control room	CS2 plant	40	44	43	45
39	Charcoal Feeder	CS2 plant	41	48	42	46
40	Furnace area	CS2 plant	50	53	51	55
41	Pump House	WTP	59	62	59	64
42	Operator room (Inside)	WTP	54	49	45	52
43	Operator room (Outside)	WTP	52	60	50	62
44	Office	WTP	43	43	43	46
45	Lab	WTP	42	42	44	45
46	EC entrance	EC	38	40	40	43
47	TG ground floor area (Near MCC)	EC	44	60	45	60
48	MCC room (ground floor)	EC	44	44	43	46
49	Compressor area (Khosla Crepelle)	EC	61	66	63	67
50	Between 3PA Fan 1 & 2	EC	47	52	48	54
51	Between 3FD Fan # 1 & 2	EC	53	55	53	57
52	Between 2FD Fan 1 & 2	EC	56	58	56	60
53	Between 2PA Fan 1 & 2	EC	58	63	59	62
54	Near Turbine # 1	EC	61	65	62	66
55	Near Turbine # 2	EC	63	66	63	68
56	Office Gallary	EC	48	51	48	53
57	Turbine # 3 floor (Near Generator)	EC	60	63	60	64
58	EC Control room (Outside)	EC	59	66	59	65
59	EC Control room (inside)	EC	42	45	43	47
60	Office / Conf. Room	Auxiliary	44	48	44	51
61	Drum Dryer - 8.0 mtr.	Auxiliary	60	60	55	62
62	Vibrators	Auxiliary	59	63	59	65
63	RVF / TFF - 13 mtr	Auxiliary	61	62	58	64
64	RVF / TFF - 19 mtr blower (Old)	Auxiliary	61	66	62	62

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

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65	RVF / TFF - Operator room	Auxiliary	46	52	47	52
66	RVF / TFF - blower top floor area (Old)	Auxiliary	63	67	64	69
67	RVF / TFF - blower top floor area (New)	Auxiliary	65	69	65	68
68	Crystalization office - New plant (out)	Auxiliary	60	62	57	62
69	Crystalization office - New plant (In)	Auxiliary	50	53	51	55
70	MSFE office - Old Plant (Outside)	Auxiliary	54	59	55	60
71	MSFE office - Old Plant (Inside)	Auxiliary	48	51	51	53
72	Cooling towew # 3	Auxiliary	59	64	60	65
73	Cooling towewr - New Plant - CS2 side	Auxiliary	49	53	49	55
74	Workshop Hall	Workshop	56	60	51	62
75	Office	Workshop	52	42	42	55
76	Gate 1	Boundary area	56	48	55	50
77	Gate 2	Boundary area	56	48	54	50
78	TRADC circle	Boundary area	58	48	59	49

Vii	Occupational health surveillance program shall be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. First aid facilities in the Occupational Health Care Centre shall be strengthened and medical records of each employee shall be maintained separately.	<p>o <b><u>Complied.</u></b></p> <p>o Awareness programs are being conducted on health by CMO and by consulting with ABG Emergency Code Red.</p> <p>o First aid training being arranged on periodic interval, All the Employees are being covered under Health Survey through Periodic and pre-joining medical checkup for each and every employee and Contractual worker.</p> <p>o Medical check-up is being done six monthly, for those employees who engaged in handling hazardous substances at work place area.</p> <p>o All the Employees are covered under Health Survey, Template for Periodic and pre-joining medical checkup for each and every employee and Contractual worker are attached below</p> <p>o Medical records of employees and contract workers are maintained online and individual person can see the read only data for current and past health record for himself only from any computer in Unit.</p>
viii	A separate Environment Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and monitoring functions.	<p>o <b><u>Complied.</u></b></p> <p>o A separate environment management cell has been constituted under the leadership of Facility Head.</p> <p>o The detailed Organization chart is given below:</p>



**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

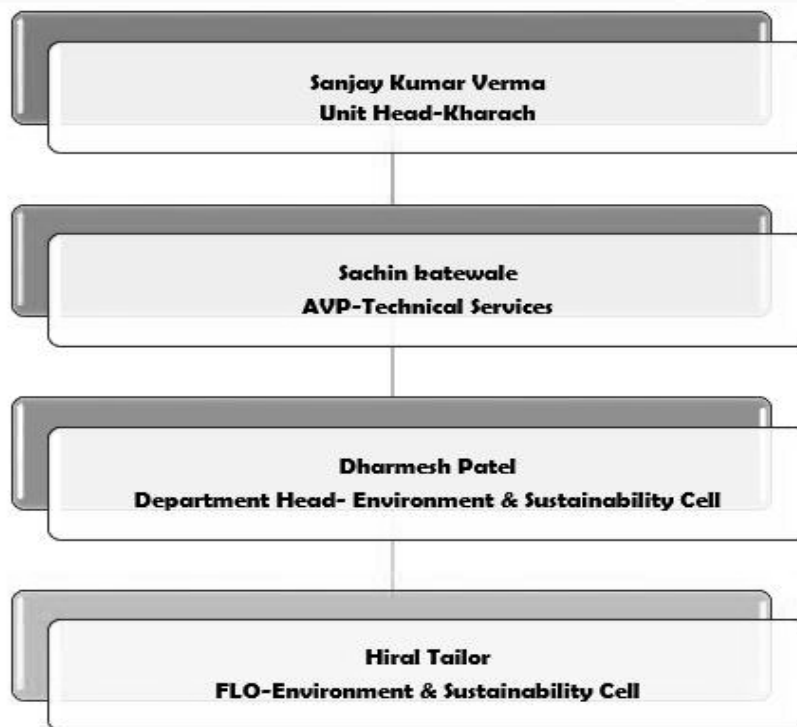
**&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

### **Organization Structure for Environment Management Cell**



ix.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ We are complying with all the environmental protection measures and safeguards recommended in EIA / EMP Reports.</li> </ul>
x.	The implementation of the project vis-a-vis environmental action plans shall be monitored by Ministry's Regional Office at Bhopal / GPCB / CPCB. A six monthly compliance status report should be submitted to monitoring agencies.	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ All identified environmental action plans of project implementation is being complied and submitted to respective government agency as Ministry's Regional Office at Bhopal/ GPCB, every six monthly to Regional Office of MOEF &amp; CC, Bhopal. Compliance report for the period: (Oct-19 to March-20) was submitted on 07.07.2020.</li> </ul>
xi.	The project proponent should advertise in atleast two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance by the Ministry and copies of the	<ul style="list-style-type: none"> <li>○ <b><u>Complied.</u></b></li> <li>○ Environment Clearance was issued on 15.01.2007 and advertisement was published in Gujarati and English language newspaper on date: 17.01.2007.</li> <li>○ Newspaper advertisement copy submitted to GPCB / Committee and same has been enclosed below.</li> </ul>

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA  
&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

clearance letter are available with the Gujarat Pollution Control Board/ Committee and may also be seen at Website of the Ministry and Forests at <http://envfor.nic.in>. The advertisement shall be made within 7 days from the date of issue of the clearance letter and a copy of the same shall be Forwarded to the Ministry's Regional Office at Bhopal.



xii. The project Authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

o Complied.



**Dated: 29.10.2020**

**The Advisor,  
Ministry of Environment, Forest and Climate Change  
Regional office, Western Region  
"Kendriya Paryavaran Bhavan"  
Link Road No.3, Ravishankar Nagar  
Bhopal-462016 (M.P)**

**Subject: Half Yearly Compliance Report of Environmental Clearance Compliance Report  
for period of "April-20 to September-20"**

Dear Sir,

In view of above subject matter, we are submitting the hard copy as well as soft copy of half yearly Environmental Clearance Compliance report along with copy of EC-1997, No. J. 11012/85/95-IA II (I) dtd. 16.01.1997 for the report period from "April-20 to September-20".

Hope, the same is in order.

**Yours Faithfully,  
(For Birla Cellulosic)**

**Dharmesh Patel  
DH- Environment**

**Encl. :**

- 1. EC Copy**
- 2. EC-1997 Compliance report (April-20 to September-20)**

**CC To:**

- 1. GPCB Regional office - Gujarat pollution control board, Plot No. 1501, GIDC, Ankleshwar**
- 2. GPCB Head office - Gujarat pollution control board, Paryavaran Bhavan, CHH Road, Sector 10A, Gandhinagar, Gujarat 382010**



**Birla Cellulose**  
Fibres from nature

Grasim Industries Limited  
Unit - Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.  
Dist. Bharuch (Gujarat) - 394 120 INDIA  
CIN : L17124MP1947PLC000410

Telephone +91 2646 270001-005, 270301-305  
Fax +91 2646 270010, 270130  
Email bc-kharach.info@adityabirla.com

Liaison Office : 11th Floor - 1101 & 1102 OCEAN, Opposite Vadodara Central Mall, Vikram Sarabhai Marg, Vadiwadi, Vadodara - 390023, Gujarat - India  
Regd. Office : P.O. Birlagram, Nagda (MP) - 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : www.grasim.com

No. J.11012/85/95-IA II(I)

GOVT. OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
PARYAVARAN BHAWAN, CGO COMPLEX  
LODHI ROAD, NEW DELHI-110003.

TELE : 4363964.

Dated 16.1.97

To,

The Chairman & Managing Director,  
Birla Cellulosic (Grasim Industries Ltd.)  
4th Floor, UCO Bank Building,  
Parliament Street,  
New Delhi-110001

Subject:- Viscose Staple Fibre Plant at Bharuch Environmental Clearance.

Sir,

This has reference to letter dated 1st August, 1995, 27th March, 1996 and 30th September, 1996 regarding your application for setting up a 60,000 TPA capacity Viscose Staple Fibre Plant and 15 MW coal based CPP at Bharuch District, Gujarat. The Ministry of Environment and Forests has carefully examined your application. It is observed that no forest land or rehabilitation is involved. The plant is based on imported pulp.

2. The Ministry of Environment and Forests hereby accords environmental clearance subject to the strict compliance of the terms and conditions mentioned below:-

- i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ii. No further expansion or modifications in the plant should be carried out without prior approval of this Ministry.
- iii. The industry should set up a pilot plant and standardize the technology for incineration of CS<sub>2</sub>/H<sub>2</sub>S rich stream before commissioning the plant. The feasibility of incinerating the entire stream containing CS<sub>2</sub> and H<sub>2</sub>S instead of segregating and burning only CS<sub>2</sub> and H<sub>2</sub>S stream should also be explored and report submitted to the

Ministry within a period of 1 year for review. The emission of H<sub>2</sub>S should not exceed 10 mg/Nm<sup>3</sup>.

- iv. Gaseous and particulate emissions (H<sub>2</sub>S, SO<sub>2</sub>, CS<sub>2</sub>, NO<sub>x</sub> and SPM) from the various process units should conform to the standards prescribed by the concerned authorities from time to time. At no time, the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be put out of operation immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.
  - v. Six air quality monitoring stations should be set up in the down wind direction as well as where maximum ground level concentrations of H<sub>2</sub>S, SPM, SO<sub>2</sub>, CS<sub>2</sub>, NO<sub>x</sub> are anticipated in consultation with the State Pollution Control Board. The air quality monitoring stations should be selected on the basis of modelling exercise to represent short term ground level concentrations, sensitive targets etc.
- Stack emissions should be monitored regularly by setting stack monitoring devices in consultation with the State Pollution Control Board.
- Data on stack emissions and ambient air quality including work zone should be submitted to this Ministry once in six months and the State Pollution Control Board once in three months along with the statistical analysis.
- vi. Work area air quality should meet the standards prescribed by the competent authorities/OSHA. CS<sub>2</sub> level should be less than 100 ppm in the work zone. Leakages from the ducts should be rectified, meshing windows should be sealed and better house keeping should be practiced to improve the work area air quality.
  - vii. Fugitive emissions should be controlled, regularly monitored and data recorded. Sensors for detection of CS<sub>2</sub> and H<sub>2</sub>S and chlorine should be provided at appropriate places in the complex in consultation with the State Pollution Control Board.
  - viii. Liquid effluents coming out of the plant and the township should comply with the norms stipulated by the competent authorities from time to time. Recycling and reuse of the treated waste water should be maximised to the extent possible.
  - ix. Guard ponds of sufficient holding capacity should be provided to cope up with the effluent discharge during the process disturbances. The contributing units should be immediately shut down and should not be restarted without bringing the system back to normalcy.



- x. Adequate number of effluent quality monitoring stations should be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for PH, S, BOD3, COD, Zn and colour. The monitored data along with statistical analysis and interpretation in the form of a report should be submitted to this Ministry once in six months and the SPCB once in three months.
- xi. Marine Impact Assessment Study report should be submitted to the Ministry for review. Recommendations made by NIO in the Marine Impact Study should be strictly adhered to the Marine outfall point for discharge of treated effluent should also have the approval of SPCB.
- xii. The hazardous wastes should be handled as per Hazardous Waste (Management & Handling) Rules, 1989 of the Environment (Protection) Act, 1986.
- xiii. Handling, manufacturing, storage and transportation of hazardous chemicals should be carried out in accordance with the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994.

The approval of the Chief Inspector of Explosives should also be obtained.

- xiv. Medical surveillance and occupational health programme should be taken up on regular basis and record of the health status of the workers should be maintained. The worker's who may contract occupational diseases particularly due to carbon disulphide exposure should be monitored closely and adequate measures should be taken for their treatment and recovery.
- xv. A Green belt of adequate width and density (2000-2600 trees/ha) should be raised all around the factory complex and the township. Preferably native plant species should be selected for this purpose in consultation with the local DFO.
- xvi. The project authorities must set up adequate facilities for collection and analysis of samples under the supervision of competent technical personnel who will directly report to the Chief Executive.
- xvii. A separate Environmental Management Cell with suitably qualified people to carry out various functions should be set up under the control of Senior Executive, who will report directly to the Head of the organisation.
- xviii. The funds earmarked for the environmental protection measures should be kept in a separate account and should not be diverted for other purpose and year-wise expenditure

should be reported to this Ministry.

3. This Ministry or any competent authority may stipulate any further condition(s) after review of the monitoring reports. The above conditions will be monitored by the Regional Office of this Ministry located at Bhopal/CPCB/GSPCB.

4. The Ministry may revoke or suspend the clearance if implementation of any of the above condition is not satisfactory.

5. Any other condition(s) or alteration in the existing conditions will be fully implemented by the project authorities within the specified time frame.

6. The above conditions will be implemented under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, Environment (Protection) Act, 1986 and the Public (Liability) Act, 1991 along with their amendments.

*(Signature)*  
(Dr. R. Warriar)  
Joint Director

Copy to:-

1. Secretary, Ministry of Industry, Udyog Bhavan, New Delhi.
2. Chairman, Gujarat State Pollution Control Board, Old Assembly Bldg, 2nd Floor, Sector 10-A, Gandhinagar.
3. Chairman Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, Delhi.
4. Secretary, State-Deptt. of Env. Govt. of Gujarat Sachivalaya, Block No. 5, 6th Floor, Gandhinagar.
5. Chief Conservator of Forests, Regional office, 3/240. Area Colony, Bhopal.
6. Adviser (H), EI Section, Ministry of Environment & Forest, New Delhi.
7. Additional Director (Monitoring Cell), Ministry of Environment and Forests, Paryavaran Bhavan, New Delhi.

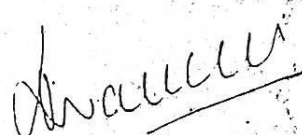
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(Dr. R. Warriar)  
Joint Director

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1. Secretary, Ministry of Industry, Udyog Bhavan, New Delhi.
2. Chairman, Gujarat State Pollution Control Board, Old Assembly Bldg, 2nd Floor, Sector 10-A, Gandhinagar.
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4. Secretary, State-Deptt. of Env. Govt. of Gujarat Sachivalaya, Block No. 5, 6th Floor, Gandhinagar.
5. Chief Conservator of Forests, Regional office, 3/240. Arear Colony, Bhopal.
6. Adviser (H), EI Section, Ministry of Environment & Forest, New Delhi.
7. Additional Director (Monitoring Cell), Ministry of Environment and Forests, Paryavaran Bhavan, New Delhi.



8. Guard File
9. Record File.
10. Monitoring File

(Dr.R.Warrier).  
Joint Director

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA  
&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

**Name of Project** : Setting up of Viscose Staple fibre plant (60,000 TPA) and 15 MW coal based TPP

**EC letter no. & Date** : J-11012/85/95-IA II(I) dated 16-01-1997 Dtd: 16.01.1997

**Address for Correspondence** : M/s. Birla Cellulosic (A Unit of Grasim Industries Ltd.)  
Birladham, Village: Kharach, Kosamba (R.S.),  
Tehsil: Hansot, District: Bharuch (Gujrat) – 394120

**Duration/Reporting period** : April-20 to Sept-20

S. No	Conditions	Compliance Status
i.	The project authorities must strictly adhere to the stipulations made by the state pollution control board and the state Government.	o <b><u>Complied.</u></b> o All stipulations made by GPCB in various consent and authorizations are strictly complied.
ii.	No further expansion or modification in the plant should be carried out without prior approval of this ministry.	o <b><u>Noted.</u></b> o No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.
iii.	The industry should set up a pilot plant and standardize the technology for incineration of CS <sub>2</sub> /H <sub>2</sub> S rich stream before commissioning the plant. The feasibility of incinerating the entire stream containing CS <sub>2</sub> /H <sub>2</sub> S instead of segregating and burning only CS <sub>2</sub> /H <sub>2</sub> S stream should also be explored and report submitted to the ministry within a period of 1 year for review. The emission of H <sub>2</sub> S should not exceed 10mg/Nm <sup>3</sup> .	o <b><u>Complied.</u></b> o The industry installed the pilot plant and standardize the technology for incineration of CS <sub>2</sub> /H <sub>2</sub> S rich stream before commissioning the plant. o Sulphur recovery plant has been provided to recover Sulphur from CS <sub>2</sub> /H <sub>2</sub> S rich stream coming from CS <sub>2</sub> plant. o Presently there are 4 spinning machines and each of the spinning machines has been provided with a 3 stage CS <sub>2</sub> condensing system along with CS <sub>2</sub> recovery system comprising recovery through steam injection and a water scrubber for condensing the steam. The vapors from the scrubber are passed through the CS <sub>2</sub> condensing system. o The emission concentration of CS <sub>2</sub> /H <sub>2</sub> S is

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

**&**

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**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status																																		
		<p>being maintained as per GPCB Norms.</p> <p>o A Summary for CS<sub>2</sub>/H<sub>2</sub>S concentration from stack and ambient air for the reporting period is given below:</p> <table><tr><th rowspan="3">Month</th><th>Process</th><th colspan="2">Ambient</th></tr><tr><th>CS2 (Kg/ToF)</th><th>CS2 (µg/m<sup>3</sup>)</th><th>H2S (µg/m<sup>3</sup>)</th></tr><tr><th>125</th><th>100</th><th>150</th></tr><tr><td>April-20</td><td>0*</td><td>0*</td><td>0*</td></tr><tr><td>May-20</td><td>72.59</td><td>12.51</td><td>11.10</td></tr><tr><td>June-20</td><td>75.22</td><td>20.33</td><td>22.17</td></tr><tr><td>July-20</td><td>90.24</td><td>18.04</td><td>23.19</td></tr><tr><td>Aug-20</td><td>80.52</td><td>17.97</td><td>17.52</td></tr><tr><td>Sept-20</td><td>91.42</td><td>20.12</td><td>14.78</td></tr></table> <p>(Note- (*- Due to lockdown the plant was not in operation. Hence, Analysis not conducted.))</p>	Month	Process	Ambient		CS2 (Kg/ToF)	CS2 (µg/m <sup>3</sup> )	H2S (µg/m <sup>3</sup> )	125	100	150	April-20	0*	0*	0*	May-20	72.59	12.51	11.10	June-20	75.22	20.33	22.17	July-20	90.24	18.04	23.19	Aug-20	80.52	17.97	17.52	Sept-20	91.42	20.12	14.78
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iv.	Gaseous and particulate emission (H <sub>2</sub> S, SO <sub>2</sub> , CS <sub>2</sub> , NO <sub>x</sub> and PM) from the various process units should conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be put out of	<p>o <b><u>Being complied.</u></b></p> <p>o Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly monitoring of Stack concentration as well as ambient air quality, as per the monitoring conducted by their team, The results are well within the prescribed norms as per consent condition.</p> <p>o A Summary for Flue gas emission from stack for the reporting period is given below:</p>																																		

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA  
&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

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	operation immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.	<table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM</td><td>mg/ nm3</td><td>100/ 50</td><td>52.80</td><td>37.94</td><td>45.37</td></tr><tr><td>SO2</td><td>mg/ nm3</td><td>600</td><td>311</td><td>228</td><td>269.50</td></tr><tr><td>NOx</td><td>mg/ nm3</td><td>600</td><td>117</td><td>84.25</td><td>100.63</td></tr></table> <p>o A Summary for process gas emission from stack for the reporting period is given below:</p> <table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max</th><th>Min</th><th>Avg</th></tr><tr><td>CS2</td><td>Kg/T of Fibre</td><td>125</td><td>91.42</td><td>72.59</td><td>82</td></tr><tr><td>SO2 (Acid plant)</td><td>Kg/T of 100% Acid</td><td>02</td><td>0.98</td><td>0.65</td><td>0.82</td></tr><tr><td>Acid Mist</td><td>mg/Nm3</td><td>25</td><td>21.74</td><td>6.32</td><td>14.03</td></tr></table> <p>o Multiple gas sensors and alarm systems Inter-linking with the pollution control Equipments/units have been provided so that early indication of malfunctioning can be detected and control measures can be taken accordingly. In case of any event of completely failure of pollution control equipment, the respective unit(s) is stopped.</p>	Para.	Unit	Std.	Max.	Min.	Avg.	PM	mg/ nm3	100/ 50	52.80	37.94	45.37	SO2	mg/ nm3	600	311	228	269.50	NOx	mg/ nm3	600	117	84.25	100.63	Para.	Unit	Std.	Max	Min	Avg	CS2	Kg/T of Fibre	125	91.42	72.59	82	SO2 (Acid plant)	Kg/T of 100% Acid	02	0.98	0.65	0.82	Acid Mist	mg/Nm3	25	21.74	6.32	14.03
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v.	Six air quality monitoring stations should be set up in the downwind directions as well as where maximum ground level concentrations of H2S, SPM, SO2, CS2, NOx are anticipated in consultation with the state pollution control board. The air quality monitoring stations exercise	<p>o <b><u>Being complied.</u></b></p> <p>o Unit has installed 3 nos. of Continuous ambient air quality monitoring (online) stations in consultation with GPCB.</p> <p>o Unit has also installed 4 nos. of offline Ambient air quality monitoring stations within premises.</p> <p>o Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly</p>																																																

**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA**

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	<p>to represent short term ground level concentrations, sensitive targets etc. Stack emission should be monitored regularly by setting stack monitoring devices in consultation with the state pollution control board.</p> <p>Data on stack emission and ambient air quality including work zone should be submitted to this ministry once in six months and the state pollution control board once in three months.</p>	<p>monitoring of Stack concentration as well as ambient air quality, as per the monitoring conducted by their team, The results are well within the prescribed norms as per consent condition.</p> <p>o A Summary for Ambient Air quality for the reporting period is given below:</p> <table><tr><th>Para.</th><th>Unit</th><th>Std.</th><th>Max.</th><th>Min.</th><th>Avg.</th></tr><tr><td>PM<sub>10</sub></td><td>µg/m3</td><td>100</td><td>58.09</td><td>52.02</td><td>55.06</td></tr><tr><td>PM<sub>2.5</sub></td><td>µg/m3</td><td>60</td><td>40.87</td><td>34.18</td><td>37.53</td></tr><tr><td>SO2</td><td>µg/m3</td><td>80</td><td>17.50</td><td>12.55</td><td>12.44</td></tr><tr><td>NOx</td><td>µg/m3</td><td>80</td><td>36.92</td><td>27.89</td><td>32.41</td></tr><tr><td>CS2</td><td>µg/m3</td><td>100</td><td>20.33</td><td>12.51</td><td>14.83</td></tr><tr><td>H2S</td><td>µg/m3</td><td>150</td><td>23.19</td><td>11.10</td><td>17.15</td></tr></table> <p>o Stack Emissions are regularly monitored and the continuous emission monitoring system has been installed at the stacks.</p>	Para.	Unit	Std.	Max.	Min.	Avg.	PM <sub>10</sub>	µg/m3	100	58.09	52.02	55.06	PM <sub>2.5</sub>	µg/m3	60	40.87	34.18	37.53	SO2	µg/m3	80	17.50	12.55	12.44	NOx	µg/m3	80	36.92	27.89	32.41	CS2	µg/m3	100	20.33	12.51	14.83	H2S	µg/m3	150	23.19	11.10	17.15
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CS2	µg/m3	100	20.33	12.51	14.83																																							
H2S	µg/m3	150	23.19	11.10	17.15																																							
vi.	<p>Work area air quality should meet the standards prescribed by the competent authorities / OSHA. CS<sub>2</sub> level should be less than 100 ppm in the work zone.</p>	<p>o <b><u>Being complied.</u></b></p> <p>o Work zone environment for emission of CS<sub>2</sub>, H<sub>2</sub>S and SO<sub>2</sub> is being regularly monitored by our Laboratory twice in a week.</p> <p>o A Summary of Work area air quality for the reporting period is given below:</p> <table><tr><th>Area</th><th>CS<sub>2</sub> (ppm)</th><th>H<sub>2</sub>S (ppm)</th><th>SO<sub>2</sub> (ppm)</th></tr><tr><td>Std. (As per GFR)</td><td>10</td><td>10</td><td>2</td></tr><tr><td>Refinery- CS<sub>2</sub> Area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 00 Ave: 00</td></tr><tr><td>Furnace- CS<sub>2</sub> Area</td><td>Min: 00 Max: 2.3 Ave: 1.15</td><td>Min: 00 Max: 2.1 Ave: 1.05</td><td>Min: 00 Max: 00 Ave: 00</td></tr></table>	Area	CS <sub>2</sub> (ppm)	H <sub>2</sub> S (ppm)	SO <sub>2</sub> (ppm)	Std. (As per GFR)	10	10	2	Refinery- CS <sub>2</sub> Area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 00 Ave: 00	Furnace- CS <sub>2</sub> Area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.1 Ave: 1.05	Min: 00 Max: 00 Ave: 00																										
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**Expansion of Viscose Staple Fibre (VSF) from 60,000 TPA to 1,27,750 TPA  
&**

**Captive Power Plant (CPP) from 15 MW to 25 MW**

**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status			
	Leakages from the ducts should be rectified, meshing windows should be sealed and better housekeeping should be practiced to improve the work area air quality.	Rayon plant	Min:00 Max: 2.3 Ave: 1.15	Min:00 Max: 2.6 Ave: 1.3	Min: 00 Max: 00 Ave: 00
		Spin Bath-Auxillary area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		MSFE-Auxillary area	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		Anhydra-tion & Crystalization Auxillary	Min:00 Max: 2.3 Ave: 1.15	Min: 00 Max: 2.1 Ave: 1.05	Min: 0.7 Max: 1.2 Ave: 0.95
		Acid plant	Min:00 Max: 2.7 Ave: 1.35	Min: 2.5 Max: 00 Ave: 1.25	Min: 00 Max: 00 Ave: 00
		Xanthator-Viscose area	Min: 00 Max: 2.5 Ave: 1.25	Min: 00 Max: 2.3 Ave: 1.15	Min: 00 Max: 01 Ave: 0.03
		Ripening-Viscose area	Min: 00 Max: 2.7 Ave: 1.35	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		Washing-Viscose area	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 2.4 Ave: 1.2	Min: 00 Max: 00 Ave: 00
		o Fugitive emissions in the work zone environment are being controlled by exploring techniques like Motorized shutter & suction			

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**Compliance of Environmental Clearance Conditions by  
M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
		<p>hoods on spinning machines &amp; cutters, shutters for stretch roller &amp; gear box and perfect sealing of all the openings in various tanks of spin bath.</p> <ul style="list-style-type: none"> <li>o Provision of fresh air by induced draft fans is in place at the spinning machines for ease of working.</li> <li>o Online gas detectors installed in the work zone around the spinning machines. Motorized shutters and completely closed after treatment machine with suction duct are there to control fugitive emission.</li> </ul>
vii.	Fugitive emissions should be controlled, regularly monitored and data recorded. Sensors for detection of CS <sub>2</sub> and H <sub>2</sub> S and chlorine should be provided at appropriate places in the complex in consultation with the state pollution control board.	<ul style="list-style-type: none"> <li>o <b><u>Being complied.</u></b></li> <li>o Fugitive emissions are being controlled &amp; regularly monitored.</li> <li>o Presently there are 5 Nos. of CS<sub>2</sub> sensors, 17 Nos. of H<sub>2</sub>S sensors installed at CS<sub>2</sub> plant and 5 Nos. of Chlorine sensor installed at Chlorine area. 8 Nos. of CS<sub>2</sub> sensors and 7 Nos. of H<sub>2</sub>S sensors installed at spinning machine area. 12 Nos. of SO<sub>2</sub> sensors installed at CS<sub>2</sub>/Acid Plant.</li> </ul>
viii.	Liquid effluents coming out of the plant and the township should comply with the norms stipulated by the competent authorities from time to time.	<ul style="list-style-type: none"> <li>o <b><u>Being complied.</u></b></li> <li>o Unit has appointed NABL accredited laboratory M/s. Pollucon laboratories pvt. ltd. for monthly monitoring of The waste water from the plant and township is/ treated in the well-established ETP and STP, as per the monitoring conducted by their team, The results are well within the prescribed norms as per consent condition.</li> <li>o A Summary of treated effluent for the reporting period is given below:</li> <li>o</li> </ul>

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**Compliance of Environmental Clearance Conditions by**

**M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status					
		Para.	Unit	Std.	Max.	Min.	Avg.
		pH	-	7.5	8.36	7.7	8
		Temp.	°C	40	31	29	30
		COD	mg/l	250	198	170	184
		BOD	mg/l	100	40	28	34
		Amm. N	mg/l	50	13.8	8.3	11.1
		Zinc	mg/l	10	0.72	0.22	0.47
		Color	Unit	100	50	30	40
		SS	mg/l	100	42	19	30.5
	o A Summary of treated Domestic sewage for the reporting period is given below:						
		Parameter	Unit	Std	Max.	Min.	Avg.
		TSS	mg/l	<30	28	12	20
		BOD	mg/l	<20	18	13	15.5
		Resi. Chlorine	mg/l	Min 0.5	0.8	0.6	0.7
		COD	mg/l	-	84	65	74.5
		Nitrogen	mg/l	-	7.6	4.5	6.05
		Fecal coliform	mg/l	-	640	350	495
		pH	-	-	7.6	7.34	7.47



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M/s. Birla Cellulosic ( A unit of Grasim Ind. Ltd.) at Kharach, Hansot, Bharuch, Gujarat**

S. No	Conditions	Compliance Status
ix.	Guard ponds of sufficient holding capacity should be provided to cope up with the effluent discharge during the process disturbances. The contributing units should be immediately shut down and should not be restarted without bringing the system back to normally.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Unit has constructed guard pond with sufficient holding capacity for effluent storage to cope up with the effluent discharge pipeline maintenance if any.</li> </ul>
x.	Adequate number of effluent quality monitoring stations should be set up in consultation with the state pollution control board. Regular monitoring should be carried out for pH, SS, BOD, COD, Zn and color. The monitored data along with statistical analysis and interpretation in the form of a report should be submitted to this ministry once in six month and the SPCB once in three months.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Adequate number of effluent quality monitoring stations i.e. Online TOC Analyser, Online pH Analyser etc are set up in consultation with the Gujrat pollution control board. Regular monitoring is being carried out for pH, SS, BOD, COD, Zn and color by the internal laboratory on daily basis and NABL accredited Laboratory on monthly basis.</li> <li>o Results are enclosed in reply of point no. viii.</li> </ul>
xi.	Marine Impact Assessment study report should be submitted to the ministry for review. Recommendations made by NIO in the Marine impact study should be strictly adhered to the Marine outfall point for discharge of treated effluent should also have the Approval of SPCB.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o In FY'07, Unit has appointed NIO to carry out Pre-marine impact assessment study.</li> <li>o At present, NIO, Mumbai has carried out Post Monitoring study in FY'19.</li> </ul>
xii.	The hazardous wastes should be handled as per Hazardous waste (management & Handling) Rules, 1989 of the Environment (Protection) Act, 1986.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Unit has segregated Hazardous/solid waste according to its characteristics and stored separately for treatment and disposal in safe manner as per Waste handling and disposal</li> </ul>

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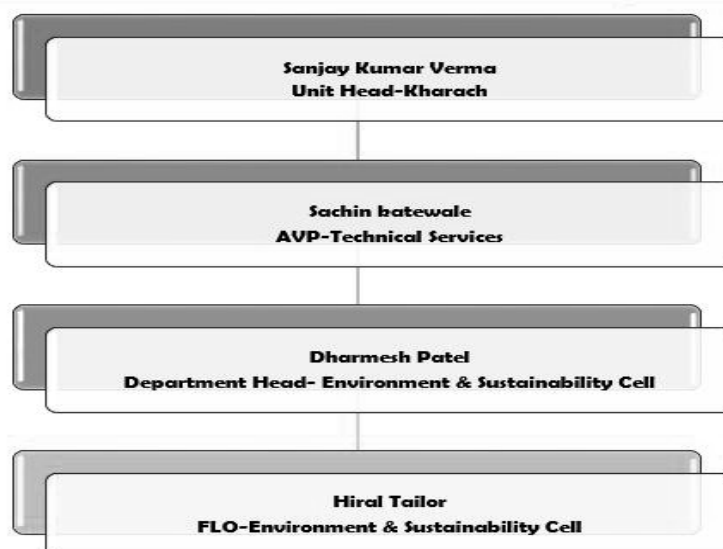
S. No	Conditions	Compliance Status
		Rules.
xiii.	<p>Handling, manufacturing, storage and transportation of hazardous chemicals should be carried out in accordance with the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994.</p> <p>The approval of the chief Inspector of Explosives should also be obtained.</p>	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Approval for chlorine storage has been taken for 10 tons on 26.09.2018 and valid up to 30-Sep- 2023.</li> <li>o Also, valid factory license #6059 and registration# 165/17114/1997 dated 15-oct-2016 and valid up to 31-Dec-2021 has been obtained.</li> <li>o Handling, manufacturing, storage and transportation of hazardous chemicals is being carried out in accordance with the Manufacture, Storage and Import of Hazardous Chemicals Rules.</li> </ul>
xiv.	<p>Medical surveillance and occupational health program should be taken up on regular basis and record of the health status of the workers should be maintained. The workers who may contract occupational diseases particularly due to carbon disulphide exposure should be monitored closely and adequate measures should be taken for their treatment and recovery.</p>	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Medical surveillance is being done in every six months, for the employees who engaged in handling hazardous substances at work place area.</li> <li>o First aid training being arranged on periodic interval, All the Employees are being covered under Health Survey through Periodic and pre-joining medical checkup for each and every employee and Contractual workers.</li> <li>o Medical records of employees and contract workers are maintained online and individual person can see the read only data for current and past health record for himself only from any computer in Unit.</li> </ul>
xv.	<p>A green belt of adequate width and density (2000-2600 trees/ha.) should be raised all around the factory complex and the township. Preferably native plant species</p>	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Green belt has been developed within the plant premises, along the boundary wall and open spaces.</li> <li>o As on date the ~1,85,000 trees have been</li> </ul>

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S. No	Conditions	Compliance Status
	should be selected for this purpose in consultation with the local DFO.	planted in the premises covering the density as 1000 trees per acre. Native plant species has been selected in consultation with DFO and as per the directives of DoEF, Mangroves have been planted in 100 Ha. at Raniyo Island.
xvi.	The project authorities must set up adequate facilities for collection and analysis of samples under the supervision of competent technical personnel who will directly report to the chief executive.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o Adequate facilities have been developed for the collection and analysis of samples under the supervision of competent technical personnel who directly reports to the chief executive at the plant.</li> </ul>
xvii.	A separate Environmental Management Cell with suitably qualified people to carry out various functions should be set up under the control of senior executive, who will report directly to the Head of the organization.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o A separate environment management cell has been constituted under the leadership of Facility Head.</li> </ul>

**Organization Structure for Environment Management Cell**



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S. No	Conditions	Compliance Status
xviii.	The funds earmarked for the environmental protection measures should be kept in a separate account and should not be diverted for other purpose and year – wise expenditure should be reported to this ministry.	<ul style="list-style-type: none"> <li>o <b><u>Complied.</u></b></li> <li>o The funds earmarked for the environmental protection measures are being maintained and not diverted for diverted for other purpose.</li> <li>o A year wise expenditure on environment safeguards is being submitted to MOEF and CC at the end of each FY along with EC compliance report for the period of Oct to March of each year.</li> <li>o Environment expenditure for FY-20 is submitted along with earlier compliance report.</li> <li>o Unit is assured that will submit the Environment expenditure for FY-21 along with next compliance report for Oct-20 to March-21.</li> </ul>