



Dated: 21.11.2019

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

Dear Sir,

**Subject: Half Yearly Environmental Clearance Compliance Report for period of April'19 to September'19.**

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 annexures of EC-2016, No. J. SEIAA/GUJ/EC/5(d) & 1(d)/339/2016 dtd. 20.05.2016 for the report period from April-19 to September-19.

Hope, the same is in order.

Yours Faithfully,  
(For Birla Cellulosic)

A handwritten signature in blue ink, appearing to read "Sachin Katewale", is written over a horizontal line.

**Sachin Katewale**  
Asst. Vice President – Technical

**Encl. :**

1. EC Copy
2. EC-2016 Compliance report (April-19 to September-19)



**Birla Cellulose**  
Fibres from nature

# Half-Yearly Compliance REPORT

**EC Letter No.: SEIAA/GUJ/EC/5(d)&1(d)/339/2016**

**Dated 20.05.2016**



**Period of compliance: April to September, 2019**

**FOR**

**Proposed Manufacturing of Solvent Spun Cellulosic Fibre  
and Coal based Captive Power Plant (CPP)  
within the existing premises of Birla Cellulosic Plant**

**By**

**M/s. Birla Cellulosic Ltd.**

**At**

**Survey No.: 155-181, 183, 184, 202, 206, 219,  
Birladham, Kharach (R.S.),  
District: Bharuch.**

**SUBMITTED BY**



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

**PREPARED BY**



**J.M. EnviroNet Pvt. Ltd.**

(Registered EIA Consultant Organization from NABET-QCI)  
202-A, ABW Tower, MG Road, IFFCO Chowk, Sector 25,  
Gurugram - 122 001 (Haryana)  
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**ENVIRONMENTAL  
CLEARANCE**

**VIDE LETTER NO. :**

**SEIAA/GUJ/EC/6(D) 1339**

**DATED 20.05.2016**



No. SEIAA/GUJ/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.155-181,183,184,202,205,219, Birladham, Kharach, Kosamba (R.S.), Dist: Bharuch..... In Category 5(d) &1(d) of Schedule annexed with EIA Notification dated 14/09/2006.

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 29/05/2015, 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.155-181,183,184,202,205,219, 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	109500 MT/Annum
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 04/05/2016 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 07/05/2016 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 environmental friendly and there shall be no use of any hazardous chemicals like CS<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> 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 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.
4. The additional fresh water shall be sourced from River Kim. 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 no.s 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. Directors 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 salt shall be disposed off at the Common TSDF site.
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.
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 CHWIF.
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 CPCB 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. NIL 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 gulland 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. 155-181, 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 Arjun 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

**POINT WISE REPLY OF CONDITIONS  
STIPULATED IN ENVIRONMENTAL  
CLEARANCE**

**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, District: Bharuch (Gujrat) – 394120


S.No	Conditions	Compliance Status														
A.1	Specific Condition															
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.	Hazardous Chemical i.e. CS <sub>2</sub> and H <sub>2</sub> SO <sub>4</sub> is not being used in main process.														
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.	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 99.6% and recovered solvent is reused in the process.														
A.2	Water															
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.	<div>Presently, the fresh water consumption is within the stipulated permission for the Birla cellulosic which includes the manufacturing of Solvent Spun Cellulosic Fiber, VSF and CPP. Fresh water consumption for period of April-19 to September-19 as below:</div> <table><tr><th>Month</th><th>Quantity (KLPD)</th></tr><tr><td>April-19</td><td>15361</td></tr><tr><td>May-19</td><td>14815</td></tr><tr><td>June-19</td><td>15916</td></tr><tr><td>July-19</td><td>15552</td></tr><tr><td>August-19</td><td>15595</td></tr><tr><td>September-19</td><td>16952</td></tr></table>	Month	Quantity (KLPD)	April-19	15361	May-19	14815	June-19	15916	July-19	15552	August-19	15595	September-19	16952
Month	Quantity (KLPD)															
April-19	15361															
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September-19	16952															

S.No	Conditions	Compliance Status																				
		Average	15698																			
4.	The additional fresh water shall be sourced from river Kim. Permission from the concern authority for additional water requirement shall be obtained.	Permission for the drawl of 18,829 M³/day water has been obtained. For the same the agreement has been done with the Irrigation Department. A copy of the Water Agreement letter is attached as <b>Annexure-1.</b>																				
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.	The fresh water requirement is met from the surface water i.e. Kim river and groundwater is not tapped. The fresh water withdrawal record is being maintained on daily and monthly basis and frame in logbook.																				
6.	Total waste water generation from the proposed project shall not exceed 7149 KL/day.	<p>Presently, the waste water generation of Solvent spun cellulosic fiber is within the stipulated permission given by SPCB. Total waste water generation of Birla cellulosic which includes the manufacturing of Solvent Spun Cellulosic Fiber, VSF and CPP. Data for Industrial effluent discharge towards for period of April'19 to Sept'19 as below:</p> <table><tr><th>Month</th><th>Quantity(KLP D)</th></tr><tr><td>April'19</td><td>9722</td></tr><tr><td>May'19</td><td>10044</td></tr><tr><td>June'19</td><td>10242</td></tr><tr><td>July'19</td><td>10415</td></tr><tr><td>August'19</td><td>9971</td></tr><tr><td>September'19</td><td>9471</td></tr><tr><td><b>Total (KL)</b></td><td><b>59865</b></td></tr><tr><td><b>Average (KLPD)</b></td><td><b>9977.5</b></td></tr></table>			Month	Quantity(KLP D)	April'19	9722	May'19	10044	June'19	10242	July'19	10415	August'19	9971	September'19	9471	<b>Total (KL)</b>	<b>59865</b>	<b>Average (KLPD)</b>	<b>9977.5</b>
Month	Quantity(KLP D)																					
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<b>Average (KLPD)</b>	<b>9977.5</b>																					
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.	Presently the unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum) along with Captive Power Plant 15 MW; Multi Effect Evaporator (MEE) plant and RO system shall be operated regularly and efficiently to achieve the GPCB norms at the final outlet once the unit is operated at full capacity.																				
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.	The same is being practiced once the unit is operated at full capacity.																				
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	The same is being practiced once the unit is operated at full capacity.																				



S.No	Conditions	Compliance Status																		
	salts after drying shall be disposed off in the authorized TSDF site.																			
10.	<p>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).</p> <p>The unit shall also provide on line pH meter and TOC meter for online monitoring of the treated effluent.</p>	<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>The quantity of water discharged for Birla cellulosic which includes the manufacturing of Solvent Spun Cellulosic Fiber, VSF and CPP is meeting the limit as prescribed in condition. The data of the monthly discharge is as below:</p> <table><tr><th>Month</th><th>Quantity(KLP D)</th></tr><tr><td>April'19</td><td>9722</td></tr><tr><td>May'19</td><td>10044</td></tr><tr><td>June'19</td><td>10242</td></tr><tr><td>July'19</td><td>10415</td></tr><tr><td>August'19</td><td>9971</td></tr><tr><td>September'19</td><td>9471</td></tr><tr><td>Total (KL)</td><td>59865</td></tr><tr><td>Average (KLPD)</td><td>9977.5</td></tr></table> <p>Online pH meter and TOC meter at outlet of final treated water are being provided.</p>	Month	Quantity(KLP D)	April'19	9722	May'19	10044	June'19	10242	July'19	10415	August'19	9971	September'19	9471	Total (KL)	59865	Average (KLPD)	9977.5
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Average (KLPD)	9977.5																			
11.	There shall be no increase in domestic waste water generation.	Noted, there is/ will 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 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.	<p>Flow meter at the inlet &amp; outlet of ETP has been installed</p> <p>At present, RO and MEE is not installed. It shall be installed one the plant is operated at full capacity and metering facility will be provided.</p>																		
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.	The same is being practiced once the unit is operated at full capacity.																		
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.	Unit shall join and participate financially and technically for any common environmental facility /infrastructure as and when the same is taken up by GPCB or any such authority created for this purpose by the Govt.																		



S.No	Conditions	Compliance Status																				
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 separate electric meter has been provided in ETP and record for power consumption is being maintain in logbook.																				
A3	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 Boiler ( 3 Boiler of capacity 120 TPH each and one Boiler of capacity 100TPH).	<div>Unit is using imported and indigenous coal to the tune of 450 TPD for one boiler of capacity 100 TPH. Coal consumption for period of April’19 to Sept’19 as mentioned below:</div> <table><tr><th>Month</th><th>Quantity(MT/Month)</th></tr><tr><td>April’19</td><td>24386.7</td></tr><tr><td>May’19</td><td>25542.4</td></tr><tr><td>June’19</td><td>26370</td></tr><tr><td>July’19</td><td>24862.5</td></tr><tr><td>August’19</td><td>23939.6</td></tr><tr><td>September’19</td><td>25617.9</td></tr><tr><td>Total (MT)</td><td>150719.1</td></tr><tr><td>Average (MT/Month)</td><td>25119.85</td></tr><tr><td>Average (MT/Day)</td><td>837</td></tr></table> <div>The quantity of coal consumption is including the VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</div>	Month	Quantity(MT/Month)	April’19	24386.7	May’19	25542.4	June’19	26370	July’19	24862.5	August’19	23939.6	September’19	25617.9	Total (MT)	150719.1	Average (MT/Month)	25119.85	Average (MT/Day)	837
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17.	Sulfur and ash content of the imported coal and Indigenous Coal shall be analyzed and its record shall be maintained.	Sulfur and ash content of the imported coal and Indigenous coal is being analyzed and records for same is being maintained. Copy of Analysis report is attached as <b>Annexure-2</b> .																				
18.	Stack of adequate height shall be provided as per the prevailing norms for the flue gas emissions.	Unit has provided adequate stack along with attached boiler. Photographs of stack are as enclosed below.																				

S.No	Conditions	Compliance Status
		
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.	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.	<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.</p> <p>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.</p> <p>Concentration of flue gas emission for boiler is being monitored by NABL accredited third party on monthly basis.</p>
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.	<p>Emissions are being regularly maintained and the monitoring is being conducted by NABL accredited laboratory.</p> <p>Also, online monitors 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.</p> <p>A summary of the last six months for flue gas is given below:</p>


S.No	Conditions	Compliance Status					
		Parameter s	Unit	Std.	Max	Min.	Avg.
		PM	mg/Nm <sup>3</sup>	100/30	76	20	40
		SO <sub>2</sub>	ppm	100	91	67	80
		NO <sub>x</sub>	ppm	50/100	43	24	33
		Analysis report for reporting period is attached as <b>Annexure-3.</b>					
22.	The air pollution control systems shall be operated effectively to achieve the norms prescribed by the GPCB at vent/ stack outlets.	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. There's no process vent/stack at mfg. plant of Solvent spun cellulosic fibre.					
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.	Unit has prepared schedule for preventive maintenance of mechanical and electrical parts of ESPs with yearly frequency.					
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.	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.					
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.	Online monitoring system for SO <sub>2</sub> , NO <sub>x</sub> , PM for monitoring the emissions from Power Plant is being installed. The Online data is being transmitted to GPCB/CPCB server.					
26.	There shall be no process gaseous emission from the proposed project.	There are no process gaseous emission from Solvent Spun Cellulosic Fibre plant.					
27.	Adequate storage facility for the fly ash terns of closed silos shall be provided at site. No ash pond shall be constructed.	There are 3 no. of closed silo having 10000 MT storage capacity for storage of fly ash. Photographs for fly ash silo is enclosed below.					

S.No	Conditions	Compliance Status														
	<div></div> <div></div>															
28.	Handling of the fly ash shall through a closed pneumatic system.	Fly ash is being handled through a closed system.														
29.	Ash shall be handled only in dry state.	Fly ash with the moisture of 5% to eliminate the fugitive emission is being utilized.														
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.	<p>100% of the Fly ash generated is provided to surrounding local Brick and Cement manufacturers as stipulated in the CCA. A statement showing month-wise quantity of fly ash is as mentioned below:</p> <table><tr><th>Month</th><th>Quantity (MT)</th></tr><tr><td>April-19</td><td>3538.97</td></tr><tr><td>May-19</td><td>3082.91</td></tr><tr><td>June-19</td><td>1983.36</td></tr><tr><td>July-19</td><td>980.94</td></tr><tr><td>August-19</td><td>1070.78</td></tr><tr><td>September-19</td><td>2245.05</td></tr></table> <p>The quantity of Fly ash is including the VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</p>	Month	Quantity (MT)	April-19	3538.97	May-19	3082.91	June-19	1983.36	July-19	980.94	August-19	1070.78	September-19	2245.05
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31.	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 & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.	Fugitive emissions are being monitored in the different identified work zone area and analysis reports are regularly submitting to concerned govt. regulatory.														

S.No	Conditions	Compliance Status
	<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 properly 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 closed trucks only.</li> <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>	<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 regular basis.</li> <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 plantation 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.	The all the sources of fugitive emissions are regularly checked.
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.	No toxic solvent is being used.



S.No	Conditions	Compliance Status
34.	All the vessels used in manufacturing process shall be closed to reduce the fugitive emission.	The all the sources of fugitive emissions are regularly checked.
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. Directors of Industrial Safety &Health).	The fugitive emission in the work zone environment are being monitored. The emission strictly conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors 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 2.5, 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 construction with the GPCB.	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>10</sub> , PM 2.5, HC and VOC is being carried out. Results are enclosed as <b>Annexure 3</b> .  Ambient air quality levels do not exceed the standards stipulated by the GPCB.  The location of the stations and frequency of monitoring is being decided in construction with the GPCB.
37.	Airborne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosure.	Unit has provided water sprinkling system at coal storage area, fly ash handling area for prevention of dusting.
38.	Solvent management shall be carried out as follows: <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 specified with all safety measures.</li><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>	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 99.6% recovery by providing condensers.</li><li>• Separate storage area allotted for storage of solvent.</li><li>• Earthing facility has been provided.</li></ul>

S.No	Conditions	Compliance Status
39.	Regular monitoring of Volatile Organic Compounds (VOC) shall be carried out in a work zone area and ambient air.	Non-volatile solvent is being used, Hence, there is no scope for the Concentration of VOC in a work zone as well as ambient.
40.	For control of fugitive emission, VOCs, following steps shall be followed: <ol style="list-style-type: none"> <li>Closed handling and charging system shall be provided for chemicals.</li> <li>Reflux condenser shall be provided over Reactors /Vessels.</li> <li>Pumps shall be provided with mechanical seals to prevent leakages.</li> <li>System of Leak Detection and repair of pump/pipeline based on preventive maintenance.</li> </ol>	Solvent is non-volatile. Hence, there is no scope for the Concentration of VOC in a work zone as well as ambient.
<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.	The company shall strictly comply 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.
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.	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.
		
43.	ETP waste & MEE salt shall be disposed off at the common TSDF site.	As prescribed in consent, the generated quantity of ETP sludge is selling to cement manufactures

S.No	Conditions	Compliance Status														
		for Co-Processing.														
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.	During reporting period, generation of used resin is Nil. Tow waste is being sold as a low grade fibre.														
45.	Discarded barrels / containers / bags / liners shall be either reused or returned back to supplier or sold only to the authorized vendors after decontamination.	As prescribed in consent, the generated quantity of discarded barrels / containers / bags / liners is being sold to registered recycler.														
46.	Used Oil shall be sold only to the registered recyclers.	As prescribed in consent, the generated quantity of Used oil is being sold to Authorized recycler.														
47.	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF.	Unit Membership certificate from BEIL-TSDF site for landfilling of hazardous material has been obtained. Membership certificate is attached as <b>Annexure-4</b> .														
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.	<p>100% of the Fly ash generated is provided to surrounding local Brick and Cement manufacturers as stipulated in the CCA.</p> <p>A statement showing month-wise quantity of fly ash is as mentioned below:</p> <table><tr><th>Month</th><th>Quantity (MT)</th></tr><tr><td>April-19</td><td>3538.97</td></tr><tr><td>May-19</td><td>3082.91</td></tr><tr><td>June-19</td><td>1983.36</td></tr><tr><td>July-19</td><td>980.94</td></tr><tr><td>August-19</td><td>1070.78</td></tr><tr><td>September-19</td><td>2245.05</td></tr></table> <p>The quantity of Fly ash is including the VSF manufacturing plant- Birla Cellulosic plant, which is less than the consent quantity.</p> <p>Unit is being filled stipulated comprehensive report annually and being submitting to GPCB and MOEF and CC.</p>	Month	Quantity (MT)	April-19	3538.97	May-19	3082.91	June-19	1983.36	July-19	980.94	August-19	1070.78	September-19	2245.05
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49.	Continuous technical & quality control guidance shall be provided to actual users of fly ash to boost the utilization of fly ash.	Unit has arranged to impart technical guidance for more improvement of boosting the utilization of fly ash.														
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.	Noted and complied														


S.No	Conditions	Compliance Status
51.	All possible efforts shall be made for Co-processing of the hazardous waste prior to disposal into TSDF/CHWIF.	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.	Company shall strictly comply with the rules and regulations manufacture, storage and Import of Hazardous Chemicals rules, 1989 as amended; however, none of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
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.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
54.	Necessary precautions like continuous monitoring of hot spots (ignited coal) using temperature detection system, water sprinklers, avoiding stacking of coal near steam pipeline etc. shall be storing for coal to prevent fire hazard.	Noted and complied.
55.	Storage of flammable chemicals shall be sufficiently away from the production area.	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.	Unit has provided 1032 nos. of Extinguisher at BC plant and 9 nos. of Extinguisher at mfg. plant of Solvent spun cellulosic fibre are being provided.
57.	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
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.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
59.	The project management shall ensure to	Noted and complied

S.No	Conditions	Compliance Status
	comply with all the environment protection measure, risk mitigation measure and safeguards mentioned in the Risk Assessment report.	
60.	Only flame proof electrical fitting shall be provided in the plant premises.	Unit has installed flam proof electrical fitting provided in plant process area.
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.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
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.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
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.	None of the flammable/Hazardous/toxic chemicals in mfg. of Solvent spun cellulosic fibre.
64.	Personal Protective Equipment shall be provided to the workers and its usage shall be ensured and supervised.	PPE is compulsory once people enter within plant premises. We have also identified the area where more precautionary PPE's required. Unit is providing the PPE's like safety shoes, safety goggles, dust mask, ear plug for all employees and visitors. Additionally, extra care of PPE's also provided to those who work at critical area.
65.	First Aid Box and Requires Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	There is 9 no. of First aid kits along with required antidotes kept at the place/Department in case of any emergency.
66.	Training shall be Imparted to all the workers on safety and health aspects of chemicals handling.	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. Training record sheet is attached as <b><u>Annexure-5.</u></b>
67.	Occupational Health surveillance of the worker shall be done and records shall be maintained. Pre-employment and periodically medical examination for the	<ul style="list-style-type: none"> <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</li> </ul>





S.No	Conditions	Compliance Status
	worker shall be undertaken as per Factories Act & Rules.	<p>interval, which covers all categories of employees, workmen.</p> <ul style="list-style-type: none"> <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>• Noted and complied</li> </ul>
69.	The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.	Unit has prepared HIRA report and preventive and mitigation measure points are complying.
70.	Necessary permission from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.	Unit has obtained factory license from DISH and there is no any hazardous chemicals are using in main process so no need to take any permission from PESO.
<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>• Unit is being 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> </ul>
<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	<ul style="list-style-type: none"> <li>• Unit has recently commissioned the plant operation and stabilize the production dated. 1/04/2019.</li> <li>• Unit will take initiatives for cleaner production project once production ration has been finalized as per mass balance.</li> </ul>

S.No	Conditions	Compliance Status
	GPCB.	
73.	<p>The company shall undertake various waste minimization measures including:</p> <ol style="list-style-type: none"> <li>Measuring and controls of quantities of active ingredients to minimize waste.</li> <li>Reuse of by-products from the process as raw material or as raw materials substitute.</li> <li>Use of automated and close filling to minimize spillages.</li> <li>Venting equipment through vapor recovery system.</li> <li>Use of high pressure hoses for cleaning to reduce wastewater generation.</li> <li>Recycling of steam condensate.</li> <li>Sweeping / mopping of floor instead of floor washing to avoid effluent generation.</li> <li>Regular preventing maintenance for avoiding leakage, spillages etc.</li> </ol>	<p>Few initiatives taken for waste minimization.</p> <ul style="list-style-type: none"> <li>PLC based effluent treatment plant established.</li> <li>Waste to be sold to cement units for co-processing activities.</li> <li>Raw materials and solvent tank made atomization for minimizing of spillage and leakages.</li> <li>Solvent recovery equipment is installed closed loops so that vapor will be collected in process.</li> <li>Sweeping and mopping machine has been procured for floor cleaning activities instead of floor washing and reduce the waste water generation.</li> <li>Unit has already planned scheduled maintenance stoppage so that leakages and spillage will be minimize.</li> </ul>
<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.	Entire plant campus is spread over 241.85 Ha. area and 80 Ha has been developed under green belt area. Total 1,85,000 nos. of tree planted in plant campus. Unit has made tree plantation in and around plant periphery as per CPCB guidelines and action plan will be submit to GPCB by Jan'20.
75.	Drip irrigation / low – volume, low- angle sprinkle system shall be used for green belt development within the premises.	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.	Interlocking facility is being provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) is stopped automatically.
77.	All the Recommendations / commitments made and mitigation measure proposed in	Noted and shall be complied.

S.No	Conditions	Compliance Status
	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.	
78.	The project authority must strictly adhere to the stipulation made by the Gujarat Pollution Control Board (GPCB), state Government and any statutory authority.	All stipulations made by GPCB in various consent and authorizations are strictly complied.
79.	During material transfer spillages shall be avoided and garland drain be constructed to avoid mixing of accidental spillages of domestic wastewater or stormwater.	Unit has constructed material transfer dike and whatever spillage is generated which is collected and reuse 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.	<ul style="list-style-type: none"> <li>Unit has constructed pucca flooring along with secondary platform for hazardous waste to minimize soil contamination.</li> <li>Chemical storage area photographs are as below.</li> </ul>
		
81.	Leakages from the pipes, pumps shall be minimal and if occurs, shall be arrested promptly.	Noted and shall be comply
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.	Noted. No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.
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	Noted and shall be comply.

S.No	Conditions	Compliance Status
	(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.	
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.	We have been undertaking various community development measures in and around 32 villages and no of beneficiaries covered in FY'19 (April'18 to March'19). Social report for FY'19 is attached as <b>Annexure- 6.</b>
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.	Unit is being monitoring regularly protection measures and risk mitigation measures also. HIRA is identified all type of risk in plant area and closely monitoring by project proponent and third party audit.
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.	Unit has kept separate budget to meet the recurring cost for maintaining the environment - cost for all instrument, pipe line and ETP. Unit ensure that capital and recurring fund is not diverted for other purposes.
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.	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. EC advertisement copy is enclosed below.



S.No	Conditions	Compliance Status
		
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>Noted and shall be comply</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.	The date of commissioning of this plant is 1 <sup>st</sup> may, 2019, which cover during this reporting period, we are submitting Half yearly compliance report herewith.
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.	Noted



S.No	Conditions	Compliance Status
91.	The project authorities shall be also adhere to the stipulations made by the Gujarat Pollution Control Board.	All stipulations made by GPCB in various consent and authorizations are strictly complied.
92.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Noted and shall be abide
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.	Noted and shall be abide
94.	The project authorities shall inform the GPCB, Regional Office oh 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.	Noted and acknowledged.
95.	This environmental clearance is valid for seven years from the date of issue.	Noted
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	Noted