ADITYA BIRLA

GRASIM

Dated: 20.10.2021

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

Subject: Half Yearly Compliance Report of Environmental Clearance for period of "April-21 to Sept-21"

Dear Sir,

In view of above subject matter, Here, we are submitting the hard copy/ 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-21 to Sept-21".**

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-21 to Sept-21**

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
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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) 246760-65, Fax : 255198, Website : www.grasim.com

M. M. JOSHI
MEMBER SECRETARY
SEIAA (GUJARAT)

सत्यमेव जयते

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY
GUJARAT

Government of Gujarat

No. SEIAA/GUJ/EC/5(d)&1(d)/339/2016 **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 14th 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_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 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_2 for proposed Steam Boilers and it shall be ensured that SO_2 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_2, NOx, PM_{10}, $PM_{2.5}$, 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 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 repot.
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 confirm 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 garland 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

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	:	No. 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-21 to Sept-21**

S. No	Conditions	Compliance Status
1	This has reference to your application along with From-I dated 13/06/2012 submitted to SEIAA, seeking Environment Clearance under Environment Impact Assessment Notification, 2006 and EIA/ additional information / documents submitted vide letter dated 29/05/2015 , 23/10/2015 and 22/03/3016 to the SEAC.	○ **Noted.**
2	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 Fiber 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.),	○ **Complied.**

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 Fiber	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 provision of EIA Notification dated 14th September, 2006 subject to the compliance of the following conditions:

- In first phase, it is proposed to start capacities as per following:

Sr. No.	List of Product	Capacity
1.	Solvent Spun Cellulosic Fiber	25550 MT/Annum
2.	Captive Power Plant	15 W

- Unit has obtained CCA for 25,550 TPA Solvent Spun Cellulosic fibre along with 15 MW CPP on dated: 23.05.2019, which is valid up to 11.04.2024.

A	**Conditions:**
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_2 and H_2SO_4 in the main process.	○ **Complied.** ○ Hazardous Chemicals i.e. CS_2 and H_2SO_4 are not being used in solvent spun cellulosic fiber 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.	○ **Complied.** ○ 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 & washing baths is 99.79%. 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.	○ **Noted & Complied.** ○ The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum). ○ Due to lower production, Fresh water consumption quantity is very less. ○ Summary of Fresh water consumption of Solvent spun cellulosic fibre plant for reporting period as below:

Month	**Quantity (KL)**
Apr-21	25591
May-21	29900
Jun-21	21430
July-21	22772
Aug-21	25220
Sept-21	23598
Total	**1,48,511**
Average (KL/Day)	**811.53**

4.	The additional fresh water shall be sourced from river Kim. Permission from the concern authority for additional water requirement shall be obtained.	○ **Noted & Complied.** ○ Permission for the withdrawal of 19, 000 M^3/day water has been obtained for both VSF and Solvent spun fibre plants. The agreement has been done with the Irrigation Department.
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.	○ **Noted & Complied.** ○ The fresh water requirement is met from the surface water i.e. Kim river and groundwater is not tapped. The water meters are already in place at water withdrawal line and fresh water withdrawal record is being maintained.
6.	Total waste water generation from the proposed project shall not exceed 7149 KL/day.	○ **Noted & Complied.** ○ The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum). ○ Due to lower production, Waste water generation quantity is very less. ○ The waste water generation during mfg of Solvent spun cellulosic fiber is getting treated in 2 stages, In 1st stage Effluent is treated at separate ETP constructed at SSCF plant and treated effluent is discharged into inlet of ETP for main VSF plant. Hence it is further treated in 2nd stage along with effluent getting generated from VSF plant. ○ The waste water generation of Solvent spun cellulosic fiber is within the stipulated permission given by GPCB. ○ Summary of Industrial effluent generated by Solvent Spun Cellulosic Fibre plant and discharged into VSF Effluent Treatment Plant for reporting period as below:

Month	**Quantity (KL)**
Apr-21	16521
May-21	15852
Jun-21	11053
July-21	12311

		<table><tr><td>Aug-21</td><td>11522</td></tr><tr><td>Sept-21</td><td>12588</td></tr><tr><td>**Total**</td><td>**79847**</td></tr><tr><td>**Average (KL/Day)**</td><td>**436.32**</td></tr></table>
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.	○ **Complied.** ○ The unit is operating at the capacity of Solvent Spun Cellulosic Fiber @ 70 TPD (25550 MT/ annum). ○ Unit has installed Multi Effect Evaporator (MEE) for solvent recovery. Generated quantity of MEE condensate water is being recycled 100% in cooling water make up and fiber washing. ○ At present, 3000 KL/day capacity RO plant is installed for MSFE condensate recycling at VSF plant. Currently SSCF unit is operated at lower capacity @ 70 TPD hence the effluent generation is very less (as mentioned in Sr. No. -6) from the unit. If required in future, additional MEE system shall be installed & operated at SSCF unit once the unit will be operated at full capacity. GPCB norms are completely achieved 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.	○ **Complied.** ○ At present, 3000 KL/day capacity RO plant is installed for MSFE condensate recycling at VSF plant. Currently SSCF unit is operated at lower capacity @ 70 TPD hence the effluent generation is very less (as mentioned in Sr. No. -6) from the unit. If required in future, additional RO system shall be installed & operated at SSCF unit once the unit will be operated at full capacity. GPCB norms are completely achieved at the final outlet. ○ Unit has installed Multi Effect Evaporator (MEE) for solvent recovery. Generated quantity of MEE condensate water is being recycled 100% in cooling water make up and fiber washing.

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.	○ **Complied.** ○ At present, 3000 KL/day capacity RO plant is installed for MSFE condensate recycling at VSF plant. 2200 KL/day permeate is reused in the process and 800 KL/day RO reject is also reused for Lime slurry preparation & Belt press washing. As the SSCF unit is operated at lower capacity @ 70 TPD hence the effluent generation is very less (as mentioned in Sr. No. -6) from the unit. If required in future, additional RO system shall be installed & operated at SSCF unit once the unit will be operated at full capacity. ○ Unit has installed Multi Effect Evaporator (MEE) for solvent recovery. Generated quantity of MEE condensate water is being recycled 100% in cooling water make up and fiber washing.
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).	○ **Noted & Complied.** ○ The waste water generation during mfg of Solvent spun cellulosic fiber is getting treated in 2 stages, In 1st stage Effluent is treated at separate ETP constructed at SSCF plant and treated effluent is discharged into inlet of ETP for main VSF plant. Hence it is further treated in 2nd stage along with effluent getting generated from VSF plant. The combined treated effluent conforming to the GPCB norms & discharged into the Kim estuary through 24 km long existing pipeline. ○ The quantity of treated effluent generation of Solvent spun cellulosic fiber + VSF plant is within the stipulated norm given by GPCB. ○ Summary of Industrial effluent discharged for reporting period as below: **Month** | **Quantity (M3)** Apr-21 | 294438 May-21 | 290609

	The unit shall also provide on line pH meter and TOC meter for online monitoring of the treated effluent.	

Jun-21	259694
July-21	256612
Aug-21	279351
Sept-21	290868
Total	**1671572**
Average (M3/Day)	**9134**

- The treated water from ETP confirming to the GPCB norms is being discharged into the Kim estuary through 24 km long existing pipeline.
- Online pH meter and TOC meter at outlet of final treated water have been provided.
- 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.

- Summary of treated effluent for the reporting period as below:

Parameter	pH	Temp.	S.S.	COD	BOD	Amm. N	Color	Zinc
Unit	**-**	**°C**	**mg/l**	**mg/l**	**mg/l**	**mg/l**	**Co-pt u.**	**mg/l**
Limit	**6.5-8.5**	**40**	**100**	**250**	**100**	**50**	**100**	**10**
Apr-21	7.62	30.2	54	148	36	4.5	60	0.71
May-21	7.84	30.1	48	152	27	5.8	50	0.84
Jun-21	7.33	30.0	31	136	29	5.0	40	0.51
July-21	7.25	30.4	56	148	32	4.3	70	0.96
Aug-21	7.34	29.9	68	138	25	5.2	60	0.62
Sept-21	7.58	29.9	53	129	26	6.4	50	0.83

11.	There shall be no increase in domestic waste water generation.	- **Noted.** - There is no increase in domestic waste water generation during reporting period.
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	- **Complied.** - Flow meters at the inlet & outlet of ETP have been installed. - Unit has installed Multi Effect Evaporator (MEE) for solvent recovery. Generated quantity of MEE condensate water is being recycled 100% in cooling

	quantity of effluent generated, Reuse/Recycle, shall be maintained and furnished to the GPCB from time to time.	water make up and fiber washing. o At present, 3000 KL/day capacity RO plant is installed for MSFE condensate recycling at VSF plant. As the SSCF unit is operated at lower capacity @ 70 TPD hence the effluent generation is very less (as mentioned in Sr. No. -6) from the unit. If required in future, additional RO system shall be installed & operated at SSCF unit once the unit will be operated at full capacity. o Logbooks of ETP, RO & MEE operation with showing the quantity of effluent generated, Reuse/Recycle are being maintained and data is shared 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.	o **Complied.** o The same is being evaluated in external Environment audit done by schedule-1 auditors assigned by GPCB.
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.	o **Shall be complied.**
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.	o **Being complied.** o A separate electric meters have been provided at various stages of process and record for power consumption is being maintained. o Record for Chemical consumption, power consumption, water consumption etc are being maintained and shared with GPCB from time to time.
A3.	**AIR**	
16.	Blended coal (Imported Coal – 50% and Indigenous Coal- 50%) to the tune of 2130 MT/day shall be used	o **Being complied.** o Unit is using blended coal (imported and indigenous) for installed boilers for VSF and SSCF

<table>
<tr><td></td><td>for 4 nos. of Steam Boiler (3 Boiler of capacity 120 TPH each and one Boiler of capacity 100TPH).</td><td>plants

o Summary of Coal consumption for reporting period as below:
<table><tr><th>Month</th><th>Quantity (MT)</th></tr><tr><td>Apr-21</td><td>23045</td></tr><tr><td>May-21</td><td>23591</td></tr><tr><td>Jun-21</td><td>23112</td></tr><tr><td>July-21</td><td>24616</td></tr><tr><td>Aug-21</td><td>23712</td></tr><tr><td>Sept-21</td><td>23112</td></tr><tr><td>Total</td><td>141189</td></tr><tr><td>Average (MT/Day)</td><td>772</td></tr></table>o The above quantity of coal consumption is total for VSF and SSCF manufacturing plant (Birla Cellulosic plant), which is less than the consent quantity.</td></tr>
<tr><td>17.</td><td>Sulfur and ash content of the imported coal and Indigenous Coal shall be analyzed and its record shall be maintained.</td><td>o <u>Complied.</u>
o Sulfur and ash content of the imported coal and indigenous coal is being analyzed by internal/ NABL accredited external laboratory and record for the same is being maintained.
o Summary of Sulphur and Ash content for reporting period as below:
<table><tr><th>Month</th><th>Sulphur</th><th>Ash</th></tr><tr><td>UoM</td><td>%</td><td>%</td></tr><tr><td>Apr-21</td><td>0.49</td><td>24.91</td></tr><tr><td>May-21</td><td>0.46</td><td>23.77</td></tr><tr><td>Jun-21</td><td>0.48</td><td>24.10</td></tr><tr><td>July-21</td><td>0.46</td><td>26.16</td></tr><tr><td>Aug-21</td><td>0.50</td><td>23.20</td></tr><tr><td>Sept-21</td><td>0.49</td><td>23.53</td></tr></table></td></tr>
<tr><td>18.</td><td>Stack of adequate height shall be provided as per the prevailing norms for the flue gas emissions.</td><td>o <u>Complied.</u>
o Unit has provided adequate stack height as per the prevailing norms for the flue gas emissions.</td></tr>
</table>

		Photographs of stack are as enclosed below.
		
19.	Lime stone injection technology shall be adopted to control SO_2 for proposed Steam Boilers and it shall be ensured that SO2 levels in the ambient air do not exceed the prescribed standards.	○ **Complied.** ○ Unit has adopted lime stone injection technology to control the concentration of SO_2 and meeting all the standards stipulated for SO2.
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.	○ **Complied.** ○ Unit has installed 3 No. of ESP having three fields with boiler 1 & 2, four fields with boiler 3 having 99.9% efficiency to control particulate matter emission from flue gas. ○ Online stack monitoring system is installed for continuous monitoring of flue gas emission parameters and data is integrated with DCS system for effective control. ○ 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 Lab on monthly basis.
21.	Flue gas emission from Boilers shall conform to the standards prescribed by	○ **Complied.** ○ Flue gas emission from Boilers are being strictly

	the GPCB. At no time, emission level should go beyond the stipulated standards.	maintained as per standards prescribed by the GPCB. The monitoring is being also conducted by NABL accredited laboratory. o Online monitoring system for SO2, NOx, and PM is provided for monitoring the emissions from Power Plant, which is connected with GPCB/CPCB server.

o Summary of flue gas emission from stack for the reporting period as below:

Location	**Boiler-1 & 2 (76 m)**			**Boiler-3 (86 m)**			
Parameter	**SPM**	**SO2**	**NOx**	**SPM**	**SO2**	**NOx**	**Mercury**
Unit	**mg/Nm3**	**mg/Nm3**	**mg/Nm3**	**mg/Nm3**	**mg/Nm3**	**mg/Nm3**	**mg/Nm3**
Limit	**100**	**600**	**600**	**50**	**600**	**300**	**0.03**
Apr-21	43	235	80	32	225	95	ND
May-21	49	225	93	37	241	88	ND
Jun-21	55	243	92	42	236	97	ND
July-21	57	257	97	41	238	94	ND
Aug-21	54	254	95	40	241	89	ND
Sept-21	48	249	94	42	234	87	ND

22.	The air pollution control systems shall be operated effectively to achieve the norms prescribed by the GPCB at vent/ stack outlets.	o **Complied.** o Unit has installed 3 No. of ESP having three fields with boiler 1 & 2, four fields with boiler 3 having 99.9% efficiency to control particulate matter emission from flue gas. Lime dosing systems are installed at Coal feeders to control SO2 & NOx emission. These pollution control systems are being operated 365*24*7. o There is no any 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.	o **Complied.** o Unit has prepared schedule for preventive maintenance of mechanical and electrical parts of ESPs, which is being followed.

24.	Third party monitoring of the functioning of the ESP along with its efficiency shall be carried out once in a year through a repute institute/organization.	○ **Complied.** ○ 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.	○ **Complied.** ○ Online monitoring system for flue gas parameters i.e. SO2, NOx, PM etc monitoring has been installed. The Online data is being transmitted to GPCB/CPCB server.
26.	There shall be no process gaseous emission from the proposed project.	○ **Noted.** ○ 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.	○ **Complied.** ○ There are 3 no. of closed silo having 250 MT storage capacity for storage of fly ash. Photographs for fly ash silo is enclosed below. ○ Unit has not constructed ash pond.
	 	
28.	Handling of the fly ash through a closed pneumatic system.	○ **Complied.**

<table>
<tr><td>29.</td><td>Ash shall be handled only in dry state.</td><td>○ <u>Complied.</u></td></tr>
<tr><td>30.</td><td>The unit shall strictly comply with the fly ash Notification under the EPA and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.</td><td>○ <u>Complied.</u>
○ 100% of the generated quantity of Fly ash sold to surrounding local Brick and Cement manufacturers as stipulated in the CCA.
○ Summary of month-wise quantity of fly ash for reporting period as below:
<table><tr><th>Month</th><th>Ash Quantity (MT)</th></tr><tr><td>Apr-21</td><td>5769</td></tr><tr><td>May-21</td><td>5608</td></tr><tr><td>Jun-21</td><td>5570</td></tr><tr><td>Jul-21</td><td>6438</td></tr><tr><td>Aug-21</td><td>5502</td></tr><tr><td>Sep-21</td><td>5439</td></tr></table>○ The quantity of Fly ash mentioned above is a total quantity of fly ash which includes generation from VSF manufacturing plant- Birla Cellulosic plant too. However the total quantity is still less than the consent quantity.</td></tr>
<tr><td>31.</td><td>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.
• 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</td><td>○ <u>Complied</u>.
○ Fugitive emissions are being monitored in the different identified work zone area and work area monitoring reports are regularly submitting to concerned govt. authority.
○ Unit has 2 nos. of covered coal conveyor for handling and transporting of coal from bulker to feeder at boiler.
○ Closed area also available at CPP for unloading activities.
○ Manual water sprinklers are installed for spraying on coal heaps to retain some moisture at top of heaps and reduce fugitive emission on regular basis.
○ Coal feeding belt conveyor and unloading areas are in close loop.
○ Unit has well equipped suppression and extraction</td></tr>
</table>

	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 surface shall be removed / swept regularly and water the area after sweeping. • Internal roads shall be either concreted or asphalted or paved property 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.	system at power plant to reduce the dust emission in and around area of CPP. ○ Unit is regularly cleaning of coal dust and fly ash on the ground and water spraying is also being done. ○ Internal road is concreted and frequently sweeped by sweeping vehicle to reduce fugitive emission. ○ Unit has already installed water jet sprinkling system at air borne dust generation area like fly ash area. ○ Fly ash and coal both are transporting through dumper along with covered tarpaulin. ○ 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.
32.	All the vessels used in the manufacturing process shall be closed to reduce the fugitive emission.	○ **Complied**. ○ All the sources of fugitive emissions are regularly checked & vessels are kept in closed conditions.
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	○ **Noted.** ○ Toxic solvent is not being used. ○ Solvent recovery system which recovers 99.79% solvent is already in place.

	vapour recovery system.	
34.	All the vessels used in manufacturing process shall be closed to reduce the fugitive emission.	○ **Complied**. ○ All the sources of fugitive emissions are regularly checked & vessels are kept in closed conditions.
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).	○ **Complied**. ○ The fugitive emission in the work zone environment are being monitored. ○ The emission is being confirmed 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 SO2, NOx, PM10, 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.	○ **Complied**. ○ Regular monitoring of ground level concentration of SO2, NOx, PM10, PM 2.5, HC and VOC is being carried out by NABL accredited laboratory. Ambient air quality levels is not exceeded the standards stipulated by the GPCB. ○ The location of the stations and frequency of monitoring has been decided in consultation with the GPCB.

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

Location	**Ambient Air quality**					
Parameter	**PM10**	**PM2.5**	**SO2**	**NOx**	**HC**	**VOC**
Unit	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**
Limit	**100**	**60**	**80**	**80**	**-**	**-**
Apr-21	63.14	28.89	17.23	28.63	ND	ND
May-21	59.80	26.36	15.82	25.74	ND	ND
Jun-21	59.49	27.16	16.92	23.95	ND	ND
July-21	61.65	28.27	17.78	25.10	ND	ND
Aug-21	55.98	29.21	16.76	27.12	ND	ND

Sept-21	62.58	30.57	15.60	30.21	ND	ND	

37.	Airborne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosure.	○ **Complied**. ○ Unit has provided water sprinkling system at coal storage area, fly ash handling area for prevention of Airborne dust particles.
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. • Solvent shall be stored in a separate space specified with all safety measures. • Proper earthing shall be provided in 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.	○ **Complied**. ○ Unit has taken following actions for management of solvent. • For prevention of leakages, mechanical seals are provided to pumps. • Achieving 99.79% recovery by providing condensers. • Separate storage area allotted for storage of solvent. • Adequate Earthling facility has been provided to solvent handling system. • Non-Flammable solvent is being used. • Flame proof lighting facility has been provided at spinning process area, pulp feeding area, specific area at Fibre storage yard, Pulp storage yard etc.
39.	Regular monitoring of Volatile Organic Compounds (VOC) shall be carried out in a work zone area and ambient air.	○ **Complied**. ○ Non-volatile solvent is being used. ○ Regular monitoring of ground level concentration (Ambient air) of SO2, NOx, PM10, PM 2.5, HC and VOC is being carried out by NABL accredited laboratory.
40.	For control of fugitive emission, VOCs, following steps shall be followed: 1. Closed handling and charging system shall be provided for chemicals.	○ **Complied.** ○ Non-volatile solvent is being used. Hence, there is no scope for the Concentration of VOC in work zone as well as in ambient. ○ Regular monitoring of ground level concentration (Ambient air) of SO2, NOx, PM10, PM 2.5, HC and

	2. Reflux condenser shall be provided over Reactors /Vessels. 3. Pumps shall be provided with mechanical seals to prevent leakages. 4. System of Leak Detection and repair of pump/pipeline based on preventive maintenance.	VOC is being carried out by NABL accredited laboratory. o Achieving 99.79% recovery by providing condensers. o Mechanical seals are provided to pumps to prevent leakages. o System of Leak Detection and repair of pump/pipeline based on preventive maintenance is already in place.
A4	**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 Transboundry) Rules2016, as may be amended from time to time; Authorization of the GPCB must be obtained for collection/ treatment/ storage/ disposal of hazardous wastes.	o **Complied.** o CCA-Amendment (including authorization for the Hazardous and Other Wastes) received on 22.10.2021 having CCA order no. AWH-115368 valid up to 11.04.2024.

o Summary of hazardous waste treatment and disposal facilities (incl. VSF plant) for the reporting period as below:

Hazardous Waste Treatment and Disposal Facilities				
Type of waste	**Schedule No.**	**Quantity**	**Treatment**	**Disposal practice**
ETP Sludge	34.3	2464.89 MT	De-watering on belt press & drying. Stored under Gypsum storage shed area.	Disposal at TSDF BEIL, or **Sold to Cement industries**
Spent Catalyst	17.2	0	Stored in Drums and disposal as per CCA condition	Disposed at TSDF, BEIL, Ankleshwar
Spent Resin	34.2	5.87 Kl	Stored in drums and neutralize	Reutilize for energy recovery in boiler as a waste to energy recovery as per CCA

Sulphur Deashing sludge	17.2	65.33 MT	Stored in storage rooms which is fully covered	Disposed at TSDF, BEIL, Ankleshwar
Discarded containers and Liners	33.3	3437 No.	Decontamination is done in Unit and stored in dedicated storage yard	Sold to approved recycler as per guidelines of CC&A.
HDPE Bags	33.3	23.16 MT	Collected and stored in dedicated storage yard	Sold to approved recycler as per guidelines of CC&A.
Used oil	5.1	4.53 Kl	Collected and stored in drums	Sold to approved recycler as per guidelines of CC&A.

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.	○ **Complied**. ○ 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.	○ **Noted**. ○ Summary of hazardous waste treatment and disposal facilities (incl. VSF plant) is given in Point no. 41.
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	○ **Noted**. ○ Summary of hazardous waste treatment and disposal facilities (incl. VSF plant) is given in Point no. 41.

	shall be sent for co- processing.	
45.	Discarded barrels / containers / bags / liners shall be either reused or returned back to supplier or sold only to the authorized vendors after decontamination.	○ **Noted**. ○ Summary of hazardous waste treatment and disposal facilities (incl. VSF plant) is given in Point no. 41.
46.	Used Oil shall be sold only to the registered recyclers.	○ **Noted**. ○ Summary of hazardous waste treatment and disposal facilities (incl. VSF plant) is given in Point no. 41.
47.	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF.	○ **Noted**. ○ There is no any hazardous waste generation from Solvent spun cellulosic fibre plant. ○ Unit has obtained Membership certificate from BEIL-TSDF site for landfilling of hazardous material generating from VSF plant.
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.	○ **Complied.** ○ 100% of the generated quantity of Fly ash sold to the Cement manufacturers and local brick manufacturer as stipulated in the CCA. ○ Summary of month-wise quantity of fly ash for reporting period as below: **Month** / **Ash Quantity (MT)** Apr-21: 5769 May-21: 5608 Jun-21: 5570 Jul-21: 6438 Aug-21: 5502 Sep-21: 5439 ○ The quantity of Fly ash mentioned above is a total quantity of fly ash which includes the generation from VSF manufacturing plant (Birla Cellulosic plant) too. However, the total quantity is still less than the consent quantity. ○ Unit is filling stipulated comprehensive report annually and the same is being submitted to GPCB and MOEF & CC.

49.	Continuous technical & quality control guidance shall be provided to actual users of fly ash to boost the utilization of fly ash.	○ **Complied.** ○ 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 & Complied.**
51.	All possible efforts shall be made for Co- processing of the hazardous waste prior to disposal into TSDF/CHWIF.	○ **Complied.** ○ As prescribed in consent, the generated quantity of ETP sludge is being sold to cement manufactures.
A5	**SAFETY**	
52.	The company shall strictly comply with the rules and regulations manufacture, storage and Import of Hazardous Chemicals rules, 1989 as amended.	○ **Complied.** ○ Unit strictly adheres the applicable rules & regulations for 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.	○ **Complied.** ○ Unit strictly adheres the applicable rules & regulations for manufacture, storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 and the public Liability Insurance Act for handling of hazardous chemicals. ○ Valid PESO license & Factory license is available with the VSF unit. ○ On-site and Off-site Disaster Management Plans available with the Unit
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	○ **Noted and complied.**

	to prevent fire hazard.	
55.	Storage of flammable chemicals shall be sufficiently away from the production area.	○ **Not applicable.** ○ None of the flammable chemicals is used in mfg. of Solvent spun cellulosic fibre.
56.	Sufficient no. of extinguishers shall be provided near the plant and storage area.	○ **Complied.** ○ Unit has provided 1176 nos. of Extinguisher at BC plant and 239 nos. of Extinguisher at mfg. plant of Solvent spun cellulosic fibre.
57.	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.	○ **Complied.**
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.	○ **Complied**
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.	○ **Complied**
60.	Only flame proof electrical fitting shall be provided in the plant premises.	○ **Complied**
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.	○ **Complied**
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.	○ **Complied**
63.	Handling and Charging of the	○ **Complied**.

	Chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.	
64.	Personal Protective Equipment shall be provided to the workers and its usage shall be ensured and supervised.	○ **Complied.**
65.	First Aid Box and Requires Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	○ **Complied.** ○ Unit has installed 12 no. of First aid kits at site and required antidotes available at the Hospital & OHC located in factory premises.
66.	Training shall be Imparted to all the workers on safety and health aspects of chemicals handling.	○ **Complied.** ○ Safety trainings including Chemical handling are being provided to all the employees on regular basis for safe working and to handle any emergency. Also experts are hired for training purpose. ○ Safety videos for employees and visitors have been prepared. All important safety information contains guide templates provided to educate more about safety at work place. ○ PPEs are mandatory in the plant. PPEs like safety shoes, safety goggles, dust mask, ear plug, helmet etc made available for all employees and visitors in the plant. Additionally, job specific or special category PPEs are also provided to those who work in critical area.
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.	○ **Complied.** ○ Awareness programs are being conducted on health by CMO and by ABG Emergency Code Red. ○ First aid training is being arranged on periodic interval, which covers all categories of employees, workmen. ○ Medical check-up is being conducted annually for all employees and six monthly, for those employees who engaged in handling hazardous substances at work place area. ○ All the Employees are covered under Health Survey. Periodic and pre-joining medical checkup for each and every employees and Contractual worker is being done.

		○ Medical records of employees and contract workers are maintained online and individual person can access his record as read only from any computer in the Unit.
68.	Transportations of hazardous chemicals shall be done as per provisions of the Motor Vehicle Act & Rules.	○ **Complied**
69.	The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.	○ **Noted & Complied.** ○ 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.	○ **Complied** ○ Unit has obtained factory license from DISH and VSF unit has valid PESO License.
A6.	**NOISE**	
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.	○ **Being complied.** ○ Unit is monitoring noise level in and around plant area as per the prescribed standard under Environment Act 1986. ○ Acoustic enclosures and closed area are being provided for noise reduction.

○ Summary of Noise level reading measurement results for the reporting period as below:

NOISE LEVEL MEASURMENT							
Month		**April-21**		**Jun-21**		**Sept-21**	
Sr. No.	**Location**	**dBA Day**	**dBA Night**	**dBA Day**	**dBA Night**	**dBA Day**	**dBA Night**
1	**Entry flap Gate**	62	61	64	59	59	63

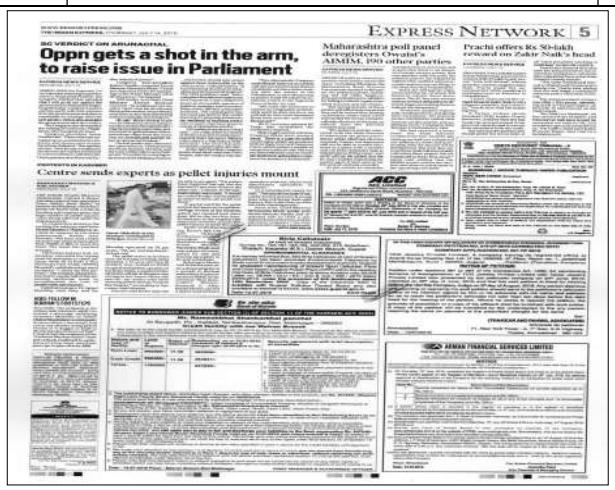
2	**Pulper South Side**	74	70	72	73	75	72
3	**Spinning East Side**	69	68	70	70	69	67
4	**ETP West side**	65	66	65	65	64	65

A7.	**CLEANER PRODUCTION AND WASTE MINIMIZATION**	
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.	○ **Shall be complied.** ○ Unit will take initiatives for cleaner production project once production ratio has been finalized as per mass balance.
73.	The company shall undertake various waste minimization measures including: a. Measuring and controls of quantities of active ingredients to minimize waste. 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.	○ **Being complied.** ○ Few initiatives taken for waste minimization. ✓ PLC based effluent treatment plant established. ✓ ETP Waste is sold to cement units for co-processing activities. ✓ By-product from VSF plant is sold as a Raw material for other process industries. ✓ Atomization made for Raw materials and solvent tank for minimizing of spillage and leakages. ✓ Solvent recovery equipment is installed in closed loops so that vapor will be collected & recovered in process. ✓ Sweeping and mopping machine has been procured for floor cleaning activities instead of floor washing and reduce the waste water generation. ✓ Steam condensate are being recycled. ✓ high pressure hoses are used for cleaning of equipment to reduce wastewater generation ✓ scheduled Preventive maintenance are done to minimize leakages and spillages.

A8.	**GREEN BELT AND OTHER PLANTATION**	
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.	○ **Being complied.** ○ 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.	○ **Being complied.** ○ Unit is utilizing treated sewage water to use as water sprinkling on green belt area through low-angle sprinkle system.
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.	○ **Noted.** ○ 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. ○ In VSF plant, Unit has constructed guard pond having 65000 m3 capacity for storage of effluent in case of any emergency situation. ○ As & when effluent generated with having non-Uniform flow or with different characteristics diverted towards Catch pond for further treatment. Unit has constructed catch pond having 2500 m3 Volume, for water storage.
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	○ **Noted and shall be comply.**

	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.	○ **Noted.** ○ 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.	○ **Complied.** ○ Unit has constructed material transfer dike as well as separate network of storm water and process drain so that there is no possibilities of mixing of waste water into storm water
80.	Puccca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.	○ **Complied.** ○ Unit has constructed pucca flooring along with secondary platform for waste, chemicals to minimize soil contamination. ○ Chemical storage area photographs are as below.
	 	
81.	Leakages from the pipes, pumps shall be minimal and if occurs, shall be arrested promptly.	○ **Noted and being complied.**
82.	No further expansion or modification in the plant likely to cause environmental impacts shall	○ **Noted**. ○ No further expansion or modifications in the plant will be carried out without prior approval of the

	be carried out without obtaining prior Environment Clearance from the concerned authority.	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 (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.	○ **Complied**. ○ Unit is in compliance with the rules and regulations under Water act-1974, Air act-1981 and Hazardous and other waste (Management and trans boundary movements) 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.	○ **Noted and being complied.**
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.	○ **Noted and being complied.**
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	○ **Complied.** ○ The funds earmarked for the environmental protection measures are being maintained and not diverted for other purpose. ○ Unit has kept separate budget to meet the capital & recurring cost for maintaining the environment -cost for all instrument, pipe line and ETP.

	diverted for any other purpose.	○ A year wise expenditure on environment safeguards is being submitted to MOEF & CC, SEIAA at the end of each FY along with EC compliance report. ○ In FY'21, 31.40 Crores spent towards Environmental protection measures. Report for same was submitted to SEIAA on dated: 20.05.2021 through E-mail.
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.	○ **Complied.** ○ 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.
		

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.	○ **Noted and shall be complied**
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.	○ **Being complied.** ○ Every six monthly compliance report is being submitted to Regional Office of GPCB & SEIAA. Compliance report for the period of Oct-20 to March-21 was submitted on 20.05.2021 through E-mail.
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.**
91.	The project authorities shall be also adhere to the stipulations made by the Gujarat Pollution Control Board.	○ **Being 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 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.	○ **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.**