

**JOINT INSPECTION REPORT
(16.01.2020 & 17.01.2020)**

OF

**M/s Grasim Industries Ltd., Chemical
Division formerly known as M/s Aditya Birla
Chemicals), Rehla Palamu, Jharkhand**

IN THE MATTER OF

**Anwar Hussain Ansari Jhamumo
Alpshankhyak Morcha VS. State of
Jharkhand**

[O.A. NO. 809/2018]

**-Prepared by-
The Joint Committee of CPCB & JSPCB**

**- Constituted by -
Hon'ble National Green Tribunal
(Order dated 14.10.2019)**

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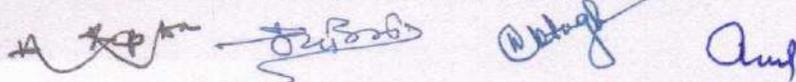
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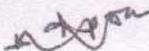
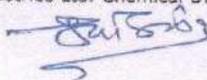
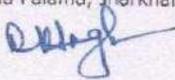
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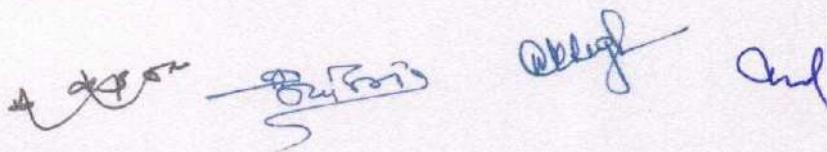


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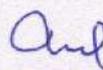
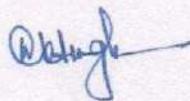
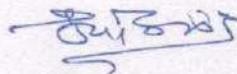
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**JOINT INSPECTION REPORT OF M/S GRASIM INDUSTRIES LTD.
FORMERLY KNOWN AS M/S ADITYA BIRLA CHEMICALS, REHLA PALAMU,
JHARKHAND AS PER HON'BLE NGT ORDER DATED 14.10.2019 CARRIED
OUT BY CPCB AND JSPCB DURING JANUARY 16-17, 2020**

1.0 Subject Matter

Matter: Anwar Hussain Ansari, Jhamumo Alpshankhyak Morcha Vs. State of Jharkhand., O.A. No. 809/2018

Subject: Remedial action against the alleged pollution of the groundwater by M/s Aditya Birla Chemicals, Rehla, Palamu on account of fly ash produced by industrial process. The joint Committee of CPCB and the SPCB was directed to assess the compensation and to ensure compliance of requisite remedial action within three months.

2.0 Order of Hon'ble NGT dated 14.10.2019

The Hon'ble Tribunal in the said matter passed the following directions on 14.10.2019 which is placed as under:-

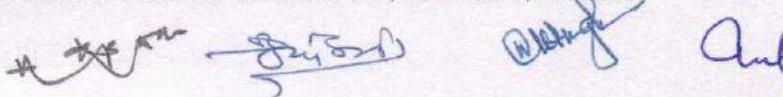
"6. In view of above, we direct a joint Committee of CPCB and the SPCB to assess the compensation at the earliest and compliance of requisite remedial action may be ensured within three months. The SPCB will be the nodal agency for coordination and compliance. Let a further report be furnished after three months but before 31.01.2020 by e-mail at judicial-ngt@gov.in."

3.0 Observations made in relevant NGT orders

3.1 NGT order dated 15.12.2018 in O.A. No. 809/2018

- The application was submitted w.r.t. pollution of ground water by the industries including Aditya Birla Chemicals, Rehla, District Palamu on account of fly ash by way of industrial process. The water is used for making caustic soda and thereafter toxic effluents are discharged, affecting the public health in Palamu District.

- In view of the above, Hon'ble NGT directed Jharkhand State Pollution Control Board (JSPCB) to ascertain facts and furnish a report on the factual aspects and



action taken within one month from the date of receipt of copy of this order by e-mail at nql.filing@gmail.com.

3.2 NGT order dated 03.05.2019 in O.A. No. 809/2018

-As per the NGT order dated 03.05.2019,

"2. Accordingly, report has been received vide email dated 10.04.2019 annexing an inspection report of M/s Grasim Industries Limited, Chemical Division at Mouza which is a unit of M/s Aditya Birla Chemicals dated 20.09.2018 finding deficiencies under the heads; 'water pollution', 'air pollution', 'solid & hazardous waste management', 'bio-medical management', 'construction and demolition waste management', 'fly ash disposal', 'land documents', 'EC compliances' and 'CTO compliances'. A show cause notice was issued under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 in the light of deficiencies noticed."

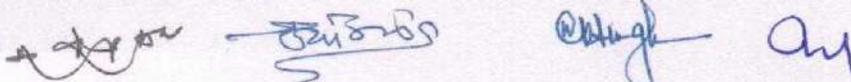
- Another inspection was conducted by officials of Regional Office-Ranchi and Consulting executives dated 12.02.2019 against the compliance report submitted by the unit in the light of directions issued by JSPCB vide letter dated 18.01.2019. In the submitted report, the following were recommended:

1. The timeline given by the unit in compliance status submitted to the Board should be strictly implemented.
2. Grinders for crushing of bed ash should be installed for utilization of bed ash in fly ash bricks/cement manufacturing.
3. Tree plantation in different rows nearby the lagoon area should be made.
4. Retaining wall should be further raised by 0.5 meters around the lagoon.
5. Display boards should be properly provided in all the areas especially in ETP outlet/Sludge Lagoon/Hazardous/Hazardous Waste Storage area etc.

- As per this NGT order,

"3. We also find from the record that an inspection was carried out by the Central Pollution Control Board (CPCB) in respect of discharge of air and water pollutants and a notice was issued proposing action under the provisions of Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and 21 of the Air (Prevention and Control of Pollution) Act, 1981."

- The above mentioned CPCB inspection was carried out by officials of RD-Kolkata on 05.03.2019 for compliance verification of SCN which was issued



by CPCB to the unit dated 24.01.2019. As per the submitted report, the unit found complying w.r.t. the directions given in the issued SCN. Hence, CPCB issued compliance direction dated 08.04.2019.

- Again, inspection was carried out by officials of Regional Office-Ranchi and Consulting executives dated 28.03.2019 for verification of compliance of directions issued by JSPCB vide letter dated 18.01.2019. In the submitted report, the following were recommended:
 1. The timelines given by the unit in compliance status submitted to the Board should be strictly implemented.
 2. The Retaining wall should be raised uniformly on all sides and for hassle free dumping of brine sludge via vehicle, ramp has to be constructed.
 3. The plastic waste mixed inside the brine sludge should be separated and disposed properly.
 4. The surface run off pit constructed is not a proper substitute of leachate collection pit and much improvement is needed.
 5. Static water sprinklers should be installed on the internal roads, approach road and dust prone areas.
 6. The damage part of effluent drain needs maintenance.
 7. Automatic system of lime dosing should be implemented instead of manual one.
 8. Tree plantation in different rows nearby the lagoon area should be made.
 9. Display Board should be properly provided in all the areas especially in ETP outlet/Sludge Lagoon/Hazardous Waste Storage area, etc.

In view of the above submitted inspection report, Hon'ble NGT passed following direction:

"6. From the above submitted inspection report, it is clear that the unit is causing pollution as found in the reports. While requirement of performance guarantee may be a step to remedy the pollution, compensation for the damage caused is required to be assessed and recovered. Quantum should not only be sufficient to restore the environment but also deterrent. Since the unit is highly polluting and falls under the category of seventeen most polluting industries, the period of one year may be required to be reduced appropriately and amount of performance guarantee enhanced.

7. Let a report of the assessment and recovery of damages, reduction of period for remedial action and increasing the amount of the performance guarantee



may be furnished by the Jharkhand State Pollution Control Board (JSPCB) within three months by email at nqt.filing@gmail.com .”

3.3 NGT order dated 05.09.2019 in O.A. No. 809/2018

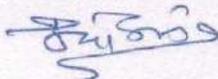
It was directed by NGT in its order dated 05.09.2019 that, "Since statutory remedy of appeal is available against the orders of the State Pollution Control Board, this application cannot be entertained and the same is dismissed without prejudice to the remedy of the applicant by way of appeal."

3.4 NGT order dated 14.10.2019 in O.A. No. 809/2018

In compliance of the directions of Hon'ble NGT order dated 03.05.2019, inspection of M/s Aditya Birla Chemicals, Rehla Palamu (hereinafter referred as 'the Unit') was carried out during 2nd-3rd July, 2019 by the committee of, RO-Ranchi, GM(Environment) CMPDIL Ranchi, IIT(ISM) Dhanbad, Sr. Manager (Environmental Engg. Div.) MECON Ltd., Ranchi and Asst. Professor, Zoology, Ranchi University.

The committee submitted inspection report along with current status w.r.t recommendations of previous inspection report (inspection dated 28.03.19). In the submitted report following were recommended:

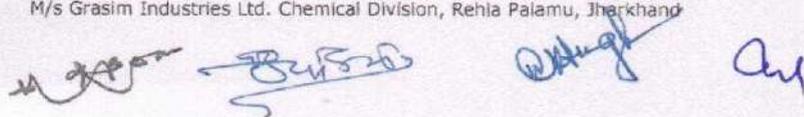
1. Recommendation for Ramp:
 - a. RCC Beam to be laid in section of the disposal Side.
 - b. 2 Meter wide RCC Platform to be constructed at the Brine Sludge disposal site.
2. Recommendation for HDPE bags at salt sludge lagoon
 - a. Bags embedded/ trapped within layers too shall be removed completely.
3. Recommendation for Run off pit
 - a. Slope Staging to be done to ensure gradient flow of rain water to collection pit.
 - b. Peep Holes diameter to be increased from existing 100 mm at least 200mm, with extra holes.
 - c. Cross section details of brine lagoon to be submitted to the committee members.
4. Recommendations for Housekeeping:-
 - a. Hump to be provided at Salt storage godown entry at both the sides.
 - b. Additional drainage to be provided at humps, approaching from outside.



5. Recommendations for Tree Plantation:
 - a. Soil testing report to be carried out.
 - b. Additional plantation to be carried out around Hazardous/ Non Hazardous waste shed area after completion of pending civil activities.
 - c. Possibility to be explored for plantation around ETP area.
6. Recommendation for Dust Separation: Static Sprinklers to be installed at -
 - a. Road approaching the Coal yard.
 - b. Across Coal handing plant building.
7. Recommendation for Environmental Compensation:- During visit it has been found that ground water has been contaminated by the unit in terms of Chloride, the committee is in view that Environmental Compensation may be decided by conducting comprehensive study in aspect of ground water, ecology and habitation and Revisit after.

Other Recommendations:

- a) Calcium Hypo Lagoon: The abandoned lagoon to be capped with top soil and plantation to be carried out. Unit to submit the time lines for the same.
- b) Rain Water Harvesting: Details of existing rain water harvesting is to be submitted for assessment and rain water harvesting should be done near the Tube Wells of affected villages.
- c) Piezometers Installation: - Two Nos. of Piezometers, one in upstream of Village Ghordiha and another in downstream of Bishunpura may be installed by the unit. One number of Piezometer should be installed in the plant premises.
- d) Disaster Management Plan (DMP) is to be prepared and safety checks are to be adopted with intimation to JSPCB.
- e) Hazard Identification and Risk Assessment (IIIRA) matrix shall be developed and furnished to JSPCB.
- f) Possibility of HCl regeneration plant to be explored.
- g) Details of Fly Ash/Bottom Ash yearly Generation/utilization should be furnished as per Annexure-X.
- h) Details of Solid waste generation and disposal shall be furnished to JSPCB.



- i) Details of Effluent generation, treatment, discharge including quantity shall be furnished to JSPCB.

In addition to check the compliance w.r.t to the previous inspection's recommendations, an inspection was carried out again on 12.10.2019 by the committee comprising of officials of JSPCB, Ranchi. As per the report,

(1) All the recommendations of inspection dated 29.03.19 found complying except implementation of automatic system of lime dosing instead of manual one.

(2) All the recommendations of inspection dated 2nd-3rd July, 2019 found complying except capping of abandoned lagoons with top soil and plantation to be carried out on the same. However, unit informed that capping will start from December, 2019 after post monsoon.

In view of the submitted inspection report of inspection dated 2nd-3rd July, 2019, Hon'ble NGT directed following:

"5. We find that the report furnished by the SPCB is still inadequate. Compensation has not been assessed though a period of almost 10 months has gone since the Tribunal first passed the order dated 15.12.2018. In spite of earlier observations, the timeline for remedial action has not been reduced. No prosecution has been initiated. Deficiencies pointed out at the time of inspection still remain to be remedied.

6. In view of above, we direct a joint Committee of CPCB and the SPCB to assess the compensation at the earliest and compliance of requisite remedial action may be ensured within three months. The SPCB will be the nodal agency for coordination and compliance. Let a further report be furnished after three months but before 31.01.2020 by e-mail at judicial-ngt@gov.in."

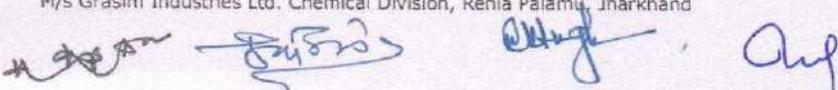
3.5 Supreme Court order dated 18.10.2019 (Civil appeal diary No. 35480/2019)

The unit filed an appeal in Hon'ble Supreme court and as per supreme court's order dated 18.10.2019, it was directed that,

"In case final order is passed, no coercive action shall be taken in the matter."

4.0 The Joint Inspection

- In compliance of the directions of Hon'ble NGT in it's order dated 14.10.2019, inspection of M/s Grasim Industries Ltd., Chemical division, Rehla Palamu (hereinafter referred as 'the Unit') was carried out during

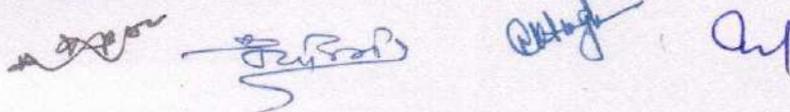


January 16-17, 2020 by the joint team comprising of officials from Jharkhand State Pollution Control Board (JSPCB) and CPCB.

- The team inspected the unit and assessed the solid waste management, water & waste water management and the compliance of remedial action taken by the unit.
- M/s Grasim Industries Ltd. was incorporated in 1984 as Bihar Caustic and chemical Ltd (BCCL), a joint venture between the Aditya Birla Group and Bihar State Industrial Development Corporation.
- In June 2003 it became fully owned Aditya Birla Group Company and in 2009 it was renamed as Aditya Birla Chemicals (India) Ltd.
- In January 2016 Aditya Birla Chemical (India) Ltd. was merged into Grasim Industries Ltd. Now the unit is operating in the name of M/s Grasim Industries Ltd., Chemical Division, Rehla.
- On the day of inspection, the unit was found non-operational due to schedule maintenance of captive Thermal Power Plant of capacity 30 MW and breakdown of another captive Thermal Power Plant of capacity 30 MW. As informed by unit's representative, the operation of the unit has been stopped since 14.01.2020. The unit intimated CPCB and JSPCB regarding the stoppage of operation through Email on dated 14.01.2020.

4.1 Installed Production Capacity and Product Details

- The unit was established with 100 TPD caustic soda manufacturing through mercury cell technology in 1984.
- In September 2000, Thermal Power plant of 30 MW was commissioned for captive power requirement and it was enhanced to 60 MW in May 2014.
- In November 2005, the mercury cell technology was abandoned and in February 2006, the operation was started with an enhanced caustic production capacity of 225 TPD using membrane cell technology.
- In May 2006, the unit started production of Aluminum Chloride of capacity 25 TPD and it was further increased to 50 TPD in May 2011.
- In May 2008, the unit started production of stable Bleaching powder of capacity 50 TPD.
- The Unit has obtained Consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 & under the Air (Prevention & Control of



Pollution) Act, 1981 from Jharkhand State Pollution Control Board (JSPCB) having validity upto 31.12.2021 (Copy placed at **Annexure-1**).

- As per the Consent to operate condition, the unit is granted permission to have production capacity of Caustic Soda- 550 MT/day, Electricity Generation-60 MW, Aluminum Chloride- 50 TPD, Chloride- 50 TPD, Stable Bleaching Powder – 50 TPD, Hydrogen Boiler & Bottling Plant- 4 TPH and Hydrogen Boiler- 4 TPH.

5.0 Freshwater Consumption

5.1 Sources of Fresh Water

- The unit is withdrawing surface water from North Koel river through intake well.
- The agreement was made between M/s Aditya Birla chemical (India) Ltd and Water Resource Department (WRD), Government of Jharkhand for withdrawal of 2.646 MCM/annum water from river North Koel which was expired on 31.03.2017 (Agreement placed at **Annexure-2**).

Table 1 Water Resource Department (WRD), Govt. of Jharkhand permission for pumping of water from North Koel river

Min. Abstraction Permission (Million Cubic Meter per Annum)	Max. Abstraction Permission (Million Cubic Meter per Annum)	Date of Agreement with WRD, Jharkhand	Valid upto
1.892	2.464 (302 m ³ /hr)	26.11.2012	26.11.2017

- The unit has applied for renewal of water agreement in the office of Water Resource Department (WRD), Government of Jharkhand, but till date no fresh /renewal agreement is obtained by the unit. Hence, it can be concluded that, the unit does not have valid permission for withdrawal of water from river North Koel.
- However, the unit is continuously withdrawing the water from river north Koel with revised rate provided by Water way division, Medini Nagar, Jharkhand vide letter No. 295 dated 26.03.2019 (Copy of the letter enclosed at **Annexure-3**).
- The unit does not have any borewell within the premises. The water from river north Koel is used for industrial as well as domestic purposes.

5.2 Quantity of Fresh Water Consumption

- As per the data provided by the unit, the total freshwater consumption by the unit from Jan-2018 to Dec-2019 is as below:

Table 2 Quantity of fresh water consumption

Sr. No.	Month	Fresh water drawl from river (KL)
1.	Jan-18	249493
2.	Feb-18	207786
3.	March-18	243530
4.	April-18	244900
5.	May-18	221821
6.	June 18	257273
7.	July-18	260004
8.	Aug-18	236176
9.	Sept-18	232120
10.	Oct-18	242343
11.	Nov-18	217102
12.	Dec-18	217340
13.	Jan-19	214647
14.	Feb-19	185874
15.	March-19	200969
16.	April-19	210492
17.	May-19	223648
18.	June-19	164319
19.	July-19	197289
20.	Aug-19	198626
21.	Sept-19	206138
22.	Oct-19	205499
23.	Nov-19	183284
24.	Dec-19	172043
Total fresh water consumption		51,92,666
Average freshwater consumption per month		216361.08
Fresh water consumption per day		7212.04 KLD ~ 7212 KLD against permission of 7248 KLD (As per previous agreement with WRD, Jharkhand)

- As per the data submitted by the unit, Avg. fresh water withdrawal from North Koel river per day from Jan-18 to Dec-19 is 7212 KLD.

6.0 Samples Collection

- The Joint Committee collected samples from the recipient drain (Chhaliya), rivers (Bhelwa & North Koel) and ground water (5 locations outside premises) to assess the impact of the industrial discharge of the unit. The

Committee has also collected STP treated wastewater sample from the industry premises. Samples were collected on 16.01.2020 and 17.01.2020.

- The Chhaliya Drain which travels through the industrial premises (about 350 m), Bhelwa river which travels about 1.0 km through the industrial premises and river North Koel which is flowing about 600 m away from the boundary of the unit.
- Collected samples have been analyzed at laboratory of CPCB, Regional Directorate, Kolkata for notified effluent discharge parameters.

The details of the collected samples and analysis results are mentioned in the following sections.

7.0 Characteristics of the wastewater flowing through drain, River water and Ground Water

- The analysis result of collected samples are presented below:

Table 3 Samples collected from Chhaliya Drain and Bhelwa river on 16.01.2020

Sample Location	pH	BOD	COD	TSS	TDS	Cl ⁻	Sodium	Potassium	Hg
Chhaliya Drain U/s of unit	3	06	43	46	2940	1509	192	11.9	NT*
Chhaliya Drain D/s of unit	4.8	05	23	50	4456	2623	235	13.65	NT

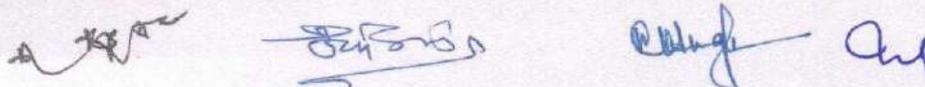
(except pH and Hg($\mu\text{g/l}$) all are in mg/l)

*Not Traceable

Table 4 Samples collected from Chhaliya Drain and Bhelwa river on 17.01.2020

Sample Location	pH	BOD	COD	TSS	TDS	Cl ⁻	Sodium	Potassium	Hg
Chhaliya Drain U/s of unit	7.7	03	21	40	2878	1633	214	12.25	NT
Chhaliya Drain D/s of unit	7.9	03	07	47	3381	1831	678.75	8.80	NT
Bhelwa River U/s of unit	8	<2.5	11	02	481	53	86	3.65	NT
Bhelwa River within unit premises	7.9	<2.5	19	09	995	356	227.5	4.45	NT
Bhelwa River D/s of the unit a/c Chhaliya drain	7.9	<2.5	05	19	1739	782	397	5.41	NT

(except pH and Hg($\mu\text{g/l}$) all are in mg/l)



- The joint team collected sample from North Koel river in the up-stream (u/s) and down stream (d/s) location of confluence with Bhewla river to see the Impact of Bhelwa River on river North Koel.
- The analysis report is presented below:

Table 5 Samples collected from Koel River

Parameters	Koel River before confluence of Bhelwa River	Koel River after confluence of Bhelwa River
pH	8.5	8.2
TSS	7	8
TDS	295	1286
BOD	<2.5	<2.5
COD	05	07
Cl	87	544
Sodium	185	259
Potassium	2.14	4.26
Alkalinity	102	211
Hardness	176	444
Ca	45	75
Mg	16	62
SO ₄	35	81
PO ₄ -P	0.014	0.030
NO ₃ -N	0.08	0.77
NO ₂ -N	<0.01	0.19
F	0.32	1.04
Hg	NT*	NT

(except pH and Hg($\mu\text{g/l}$) all are in mg/l) *Not Traceable

- The joint team also collected the ground water sample from five locations in the nearby area of the unit to see the impact of dumping of fly ash in the nearby area and dumping of brine sludge and Ca-hypo sludge within the premises. The analysis report is presented below:

Table 6 Samples collected from Hand pumps at different villages

Paramotors	Handpum p Sabauna Village	Handpum p Ghordiha village	Hand Pump Pratappu r village	Hand Pump Nawadih village	Borewell Belchampa village (Fly ash brick field)	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.8	7.2	8	7.7	7.9	6.5-8.5
Conductivity	958	959	762	753	1075	-
COD	<4	<4	<4	<4	<4	-
TSS	<5	<5	<5	<5	<5	-
TDS	618	515	506	494	599	2000
Cl	71	85	36	44	101	1000
F	1.85	1.05	1.51	2.26	0.97	1.5

(Handwritten signatures and initials)

Sodium	47.25	425	374	64.5	98.75	-
Potassium	1.12	1.82	2.38	0.94	4.35	-
Alkalinity	238	361	341	240	386	600
Hardness	375	340	233	288	420	600
Ca	122	64	53	43	80	200
Mg	17	44	24	44	53	100
SO ₄	34	31	19	37	37	400
PO ₄ -P	0.018	0.026	0.012	0.022	0.055	5
NO ₂ -N	<0.01	0.03	0.02	0.01	<0.01	-
NO ₃ -N	5.97	0.29	0.95	5.42	0.20	45
As	NT	NT	NT	NT	NT	0.05
Hg	NT	NT	NT	NT	NT	0.001

(all parameters are in mg/l except pH, conductivity, As and Hg)

(Conductivity in $\mu\text{s/cm}$, As & Hg in $\mu\text{g/l}$)

8.0 Observation on the Water consumption of the unit & Analysis result of sampled collected from River, Drain and Hand pumps

8.1 Observation on the Water consumption of the unit

- As per the data submitted by the unit, avg. fresh water withdrawal from North Koel river per day from Jan-18 to Dec-19 is 7212 KLD, which is within the permitted quantity of withdrawal as per the previous agreement dated 26/11/2012.
- The production of NaOH from NaCl consumes water @ 3.88m³/tone of NaOH produced and the quantity of wastewater generation is 0.7 m³/tone of NaOH produced.

8.2 Observation on the Analysis result of samples collected from Chhaliya drain and Bhelwa river.

- Chhaliya drain and Bhelwa river passes through the unit's premises and carry domestic as well as industrial discharge from the unit. Chhaliya drain meets Bhelwa river within premises of the unit, whereas Bhelwa river confluence with river North Koel at down stream of the unit's premises. Effluent discharge from the unit's premises drains into river North Koel through Chhaliya drain in Bhelwa river which passes through the unit's premises.
- Analysis results of water samples collected on 16.01.2020 from u/s and d/s locations of Chhaliya drain flowing through the unit indicate that there is significant increase in TDS level with 2940 mg/l at u/s to 4456 mg/l in d/s; Chloride level with 1509 mg/l at u/s to 2623 mg/l in d/s; Sodium



level with 192 mg/l at u/s to 235 mg/l in d/s; Potassium level with 11.9 mg/l at u/s and 13.65 mg/l in d/s.

- Water sample collected from Chhaliya drain on 16.01.2020 at u/s and d/s locations showed pH of 3 and 4.8, which indicate discharge of acidic effluent into Chhaliya drain at u/s of the unit. It was informed by JSPCB officials that, this may be due to discharge of effluent by the unit, M/s K.G. Industries, located at u/s of M/s Grasim Industries Ltd.
- Analysis results of water samples collected on 17.01.2020 from u/s and d/s locations of Chhaliya drain flowing through the unit's premises indicate that there is significant increase in TDS level with 2878 mg/l at u/s to 3381 mg/l in d/s; Chloride level with 1633 mg/l at u/s to 1831 mg/l in d/s; Sodium level with 214 mg/l at u/s to 678.75 mg/l in d/s.
- Analysis results of water samples collected from u/s and d/s locations of Bhelwa river flowing through the unit indicate that there is significant increase in TDS level with 481 mg/l at u/s to 1739 mg/l in d/s; Chloride level with 53 mg/l at u/s to 782 mg/l in d/s; Sodium level with 86 mg/l at u/s to 397 mg/l in d/s; Potassium level with 3.65 mg/l at u/s to 5.41 mg/l in d/s.
- A lagoon with masonry walls is provided for the storage of Calcium Hypo Chlorite sludge of capacity 30340 m³, which is located on the bank of Chhaliya drain was found completely filled.
- The significant increase in TDS, Chloride, Sodium and Potassium in Chhaliya drains and Bhelwa river which flow through the unit premises indicates possibility of discharge/seepage of effluent into the drain/river. Overflow/seepage of effluent from lagoon provided for storage of Calcium Hypo Chlorite Sludge may be one of the sources of contamination.

8.3 Observation on the Analysis result of sample collected from River North Koel

- Analysis results of water samples collected from u/s and d/s locations of river North Koel after confluence of Bhelwa river indicate that there is significant increase in TDS level with 295 mg/l at u/s to 1286 mg/l in d/s; Chloride level with 87 mg/l at u/s to 544 mg/l in d/s; Sodium level with 185 mg/l at u/s to 259 mg/l in d/s; Potassium level with 2.14 mg/l at u/s to 4.26 mg/l in d/s; Calcium level with 45 mg/l at u/s to 75 mg/l in d/s;



Magnesium level with 16 mg/l at u/s to 62 mg/l in d/s; Sulphate level with 35 mg/l at u/s to 81 mg/l in d/s; Nitrate level with 0.08 mg/l at u/s to 0.77 mg/l in d/s; Nitrite level with <0.01 mg/l at u/s to 0.19 mg/l in d/s; Fluoride level with 0.32 mg/l at u/s to 1.04 mg/l in d/s; Alkalinity level with 102 mg/l at u/s to 211 mg/l in d/s; Hardness level with 176 mg/l at u/s to 444 mg/l in d/s.

- Significant deterioration in water quality of river North Koel is observed after confluence of Bhelwa river which traverses through the unit premises and carries wastewater discharge from the unit's premises
- Discharge of leachates/seepage from fly ash dump sites, solid waste, Ca-Hypo sludge dumping, brine sludge dumped by the unit into Chhaliya drain and Bhelwa river could not be ruled out, which may deteriorate the water quality of Chhaliya drain, Bhelwa river and river North Koel.

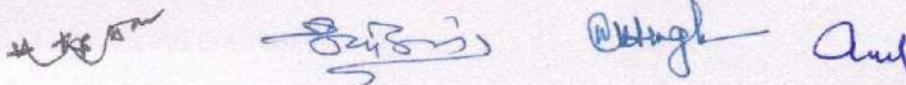
8.4 Observation on the Analysis result of sample collected from Hand pumps

- The ground water samples were collected from five locations at Sabauna village, Ghordiha village, Pratappur village, Nawadih village and Belchampa village from handpumps/borewells which shows, Fluoride level at Sabuana (1.85 mg/L), Pratappur (1.51 mg/L) and Nawadih (2.26 mg/L) villages are higher than the permissible limit (1.5 mg/L) of drinking water. The Calcium level at Sabuana village (122 mg/L) is higher than the permissible limit (100 mg/L) of drinking water.

9.0 Effluent/Emission/Solid & Haz. Waste Management System

9.1 Existing Effluent Management

- The unit has installed ETP, RO system Multi Effect Evaporator (MEE) and Agitated Thin Film Dryer (ATFD) for the management of waste water generated from various manufacturing processes.
- The designed capacity of ETP is 80 m³/hr for treatment of effluent generated from HCL plant, caustic soda plant, Demineralization Plant, Evaporators and brine treatment plant.
- The unit has installed 3 nos. of STPs (100 KL each) for treatment of domestic wastewater.



9.1.1. Effluent Treatment Plant

- ETP consist of combined effluent storage tank, flash mixer, flocculation tank, 02 nos. of plate type lamella settler, underground storage tank, Pressure Sand Filter, Activated Carbon Filter, intermediate holding tank, Ultra Filtration and 2 stage Reverse Osmosis plant.
- Effluent generating from different sections is collected in combined effluent storage tank. In combined effluent storage tank, mixing (through airline) and chemical dosing is provided and then the mixed/equalized effluent it is pumped into the flash mixer wherein dosing of PSE is carried out through dosing pumps controlled by PS sensors.
- After that, effluent flows into flocculation tank where magna floc dosing is carried out using dosing pumps in a controlled manner (pH is maintained around 7 to 8).
- The effluent from flocculation tank flows (under gravity) into two lamella (plate) settlers then collected into underground storage tank.
- The effluent is pumped into PSF and ACF (two nos. each) and collected into an intermediate holding tank from where it is pumped to ultrafiltration system. Then effluent passed through two sets of RO systems in series. Each RO system as two stages where reject of first stage is feeded to second stage. The second RO receives reject of RO-I. The reject from RO-II is feeded to MEE (Multi Effect Evaporator)-I.
- The permeates from RO-I is used into the caustic soda plant, cooling towers and DM plant for further re-use. Permeate from RO-II is utilized into stabilized bleaching powder plant and cooling towers.
- The reject from MEE is sent to ATFD (Agitated Thin Film Dryer) for conversion into salt, which is collected into the drums and stored as hazardous waste in the hazardous and other wastes storage yard.
- The condensate from MEE is sent to neutralization pit for dilution for RO feed water for further treatment.

9.1.2. Observations on Effluent Treatment Plant (ETP)

- During inspection, the ETP was also found not in operation.
- Due to non-operational condition of unit as well as of ETP, the compliance status of ETP and effluent discharge could not be verified. However, the ETP



was made operational during visit to check the operational condition of the same.

- As per the data provided by the unit, the quantity of effluent reaching to ETP varies from 290 KL to 409 KL per day.
- The unit has also not provided the flow meter at Inlet point of ETP.
- The unit is utilizing the treated effluent from ETP in different processes. The MEE reject/concentrate is feed into ATFD.

9.1.3. Observations on Sewage Treatment Plant (STP)

- All the 03 nos. STPs of 100 KL capacity each consists of Collection cum Equalization tank, Aeration tank, Settling tank, Clear water collection tank, Activated Carbon Filter and Multi Grade Filter as Tertiary Treatment units.
- As reported by the unit representative the treated sewage is used for horticulture purposes within the premises.
- Out of 03 nos. of STPs, 02 nos. STPs were found fully functional and one STP was under stabilization.
- It was observed that the domestic wastewater behind the guest house was being discharged directly into Bhelwa River without treatment through pipeline. However, sample couldn't be collected as the location was unapproachable.



Photo- Discharge of untreated sewage to Bhelwa river

- Effluent samples were collected from the outlet of 02 nos. of STPs to assess the performance. The analysis result of collected samples are as below:

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Table 7 Samples collected from STP outlet

Sample Location	pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)
STP No.1 (Basant Nagar Outlet)	7.0	7.0	34	40
STP No. 2 (Aditya Nagar Outlet)	7.6	6.0	34	12
Discharge Standard	6.5 to 9.0	30	250	100

- Analysis result of samples collected from outlet of STP are complying in comparison of notified effluent discharge standards of pH, BOD, COD and TSS.
- The unit has not installed flow meter at inlet and outlet point of STP.

9.2 Existing Emission Management System (Air Pollution and Chlorine gas leakage extraction system)

- The unit has installed Electrostatic Precipitator (ESP) in both units of captive power plant (of capacity 2x30 MW) for control of HCL mist.
- Unit has installed caustic scrubber in Calcium Hypo Plant.
- 36 Nos. of Static Sprinklers has been installed in the Coal Handling Plant and spray gun type high pressure sprinkler on coal yard.
- Coal conveyer belt has been covered.
- Sensor/detector for Chlorine gas has been installed in the Tonner area.
- Suction hood with scrubber and stack has been installed to trap the HCl fumes.
- Online Continuous Emission Monitoring System (OCEMS) for online monitoring of parameters such as SPM, SO₂, NO_x, CO, HCL and Cl₂ has been installed.
- One No. of CAAQMS Station has also been installed in the hospital area and display board has been provided near the main gate of the unit.
- Since, the unit was non-operational during inspection, effectiveness of the installed emission control system could not be verified.

9.3 Solid & Hazardous Waste Management

- The unit possesses the Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 for generation, collection, utilization, storage and disposal of Spent oil (0.1 TPA), Used oil

(20 KL/Annum) and Residue containing oil (100 TPA), valid till 10.12.2024. Authorization is placed at **Annexure-4**.

- As details provided by the unit, the unit is generating total 13 categories of Haz./solid waste as mentioned in table at **Annexure-5**.
- The unit has obtained authorization for Spent oil (0.1 TPA), Used oil (20 KL/Annum) and Residue containing oil (100 TPA). However, the unit has not obtained Haz. Waste Authorization for 10 categories of hazardous waste for generation, collection, utilization, storage and disposal.
- The unit is sending the solid wastes namely ETP dried sludge, burnt oil, ion exchange resin, Asbestos waste, Graphite tube, Glass wool, oil soaked cotton, FRP tube, Aluminium Dross, Contaminated plastic bags etc to authorized TSDF facility namely, M/s Adityapur Waste Management Pvt. Ltd., Jharkhand. Copy of the agreement with TSDF facility is placed at **Annexure-6**.
- Other than 13 categories of waste, the unit is also generating brine sludge from caustic production plant, which is non-hazardous as per the MOEF&CC notification No. 23-206/2014-HSMD dated 02.05.2016. Copy of the same is placed at **Annexure-7**.
- Average generation of brine sludge is about 150.28 MT per month against the average caustic production of 8343.91 MT per month.
- Brine sludge lagoon of capacity 16303 m³ is found completely filled with no storage capacity available for further disposal. Even sludge has been dumped over and above the bund level. New lagoon for storage of brine sludge is yet not completed. The unit is generating about 50 MT of brine sludge daily, which is still disposed/stored in the existing lagoon (as reported by unit representative). Illegal disposal from on-going production i.e. seepage/overflow of effluent/leachates from existing lagoon could not be ruled out.

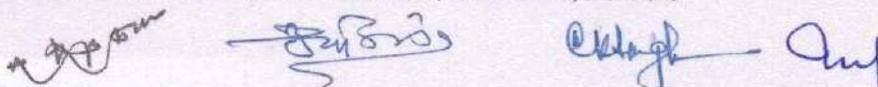




Photo:- Brine sludge storage lagoon

- Centralized waste storage facility construction is under progress for storage of graphite waste, aluminum dross etc.
- The unit has sent generated hazardous waste to the TSDF for which the unit has maintained Manifest document (as required under Rule 19 of the HWM Rules, 2016). The unit has provided the following data from Sept-2018 to Oct-2019:

Table 8 Haz. waste sent to TSDF from Sept-18 to Oct-19

Sl. No.	Hazardous waste	From Sept-18 to Oct-19	Disposal
1.	Asbestos Waste	19.3 MT	M/s Adityapur Waste Management Pvt. Ltd., Jharkhand
2.	Graphite Tube	4.16 MT	
3.	Glass Wool	4.54 MT	
4.	FRP Tube	7.68 MT	
5.	ETP sludge	215.88 MT	
6.	Aluminum Dross	10.92 MT	
7.	Contaminated Plastic Bags	34.92 MT	
	Total	297.4 MT	

9.3.1. Fly Ash Disposal

- Fly ash generated from Captive Power Plant is being transferred in the bulkers/silos through the chute for dispatch to two cement plants.
- The unit has made agreement with M/s Dalmia DSP Limited, Banjari, Rohtas, Bihar and M/s Bihar Cement Plant (A unit of Shree Cement Ltd.), Baida, Aurangabad, Bihar for the utilization of fly ash generated by M/s Aditya Birla

Chemical (India) Ltd. Copy of agreement with M/s Dalmia DSP Limited, Banjari, Rohlas, Bihar and M/s Bihar Cement Plant (A unit of Shree Cement Ltd.), Baida, Aurangabad, Bihar is placed at **Annexure-8 & Annexure-9** respectively.

- The generation and utilization of fly ash for the FY 2019-2020 are given below:

Fly ash generation and utilization (MT)					
Month	Fly ash generation	To cement mfg unit	Brick mfg plant	To nearby community	Utilized Within plant
April-2019	8156.24	6455.85	330	1284	0
May-2019	10583.94	7957.79	0	1884	0
June-2019	6056.01	5358.04	120	1452	0
July-2019	10986.87	8091.58	0	0	2172.00
Aug-2019	11600.00	9314.66	110	0	2376.00
Sept-2019	11219.16	7922.84	180	0	2772.00
Oct-2019	11981.01	8772.40	830	0	2578.61
Nov-2019	11420.41	9740.013	0	0	2083.07
Dec-2019	12322.38	11016.32	20	0	1286.06
Total	94326.02	74629.49	1590	4620	13267.74
Total Fly ash Generation: 94326.02		Total Fly ash Utilization: 94107.02			

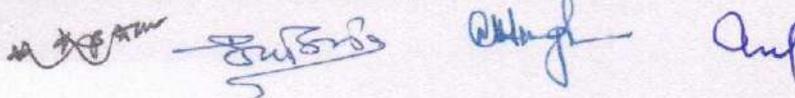
10.0 Compliance of Recommendations made by JSPCB in previously submitted inspection report (inspection dated 02nd-3rd July, 2019)

S.No.	Recommendations made by JSPCB in inspection report of inspection dated 02 nd -3 rd July, 2019	Compliance status
1.	Recommendation for Ramp: a. RCC Beam to be laid in section of the disposal Side. b. 2 Meter wide RCC Platform to be constructed at the Brine Sludge disposal site.	Complied
2.	Recommendation for HDPE bags at salt sludge lagoon A. Bags embedded/ trapped within layers too shall be removed completely.	Complied
3.	Recommendation for Run off pit a. Slope Staging to be done to ensure gradient flow of rain water to collection pit. b. Peep Holes diameter to be increased from existing 100 mm at least 200mm, with extra holes. c. Cross section details of brine lagoon to be submitted to the committee members.	Complied
4.	Recommendations for Housekeeping:- a. Hump to be provided at Salt storage godown entry at both the sides. b. Additional drainage to be provided at humps,	Complied

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	approaching from outside.	
5.	Recommendations for Tree Plantation: a. Soil testing report to be carried out b. Additional plantation to be carried out around Hazardous/ Non Hazardous waste shed area after completion of pending civil activities. c. Possibility to be explored for plantation around ETP area.	Complied (Note: there is no possibility for plantation around the ETP.)
6.	Recommendation for Dust Separation: Static Sprinklers to be installed at - a. Road approaching the Coal yard. b. Across Coal handing plant building.	Complied
7.	Recommendation for Environmental Compensation:- During visit it has been found that ground water has been contaminated by the unit in terms of Chloride, the committee is in view that Environmental Compensation may be decided by conducting comprehensive study in aspect of ground water, ecology and habitation and Revisit after.	The value of Chloride in ground water during the inspection carried out by JSPCB was in the range of 540-580 mg/L, whereas, during joint inspection during January 16-17,2020 it ranges from 36-101 mg/l.

S.No.	Other Recommendations made by JSPCB in inspection report of inspection dated 02 nd -3 rd July, 2019	Compliance status
A.	Sodium Hypo Lagoon: The abandoned lagoon to be capped with top soil and plantation to be carried out. Unit to submit the time lines for the same.	Not complied
B.	Rain Water Harvesting: Details of existing rain water harvesting is to be submitted for assessment and rain water harvesting should be done near the Tube Wells of affected villages.	Needs to be assessed by CGWA
C.	Piezometers Installation: - Two Nos. of Piezometers, one in upstream of Village Ghordiha and another in downstream of Bishunpura may be installed by the unit. One number of Piezometer should be installed in the plant premises.	Complied
D.	Disaster Management Plan (DMP) is to be prepared and safety checks are to be adopted with intimation to JSPCB.	Complied
E.	Hazard Identification and Risk Assessment (IIIRA) matrix shall be developed and furnished to JSPCB.	Complied
F.	Possibility of Hel regeneration plant to be explored.	-
G.	Details of Fly Ash/Bottom Ash yearly Generation/utilization should be furnished.	Partially complied as details of bottom ash not provided by the unit.
H.	Details of Solid waste generation and disposal shall be furnished to JSPCB.	Complied
I.	Details of Effluent generation, treatment, discharge including quantity shall be furnished to JSPCB."	Complied



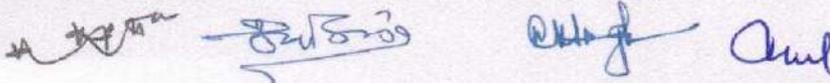
- Steps taken by M/s Grasim Industries Ltd., Rehla, Palamu, Jharkhand for control of Environmental Pollution by the initiative of JSPCB is annexed as Annexure-10.

11.0 Conclusion

1. On 16th January, 2020 the upstream pH of the Chhaliya Drain was 3.0, indicating it to be highly acidic and amount of TDS, Chloride, Sodium and Potassium were also high, being 2940 mg/L, 1509 mg/L, 192 mg/L and 12 mg/L respectively. These values indicate that contaminants are also entering upstream to the said industry in the Drain. As Upstream pH on 17.1.2020 was 7.7 so it can also be said that it might have been shock load on 16th as drain might have been affected by sudden release of chemicals, which slowly regains its pH by 17th January, 2020. But values of TDS (2878 mg/L), Chloride (1633 mg/L), Sodium (214 mg/L) and Potassium (12.25 mg/L) are indicating that even on 17th January, 2020 the inorganic load at upstream of Chhaliya drain was high and it confirms entry of untreated chemical effluent into this Drain even upstream to the said industry.
2. After analyzing the values of these parameters at downstream of the drain on 16th and 17th January, 2020 it can also be confirmed that substantial amount of these chemicals are being added to downstream of this industry confirming its untreated discharge into drain. It can very well be seen from above table no. 3 & 4 that considerable increment in the values of TDS, Chloride, Sodium and Potassium have been incurred on both these dates, only exception was K on 17th January, 2020.
3. So, it can be concluded that the industry in question is certainly discharging untreated/partially treated chemicals into Chhaliya Drain, but there is also any other industry at upstream which also contaminating the said drain. The low values of BOD, COD and TSS also indicate presence of strong oxidizing agents which oxidized all degradable organics.
4. Again the values of BOD, COD and TSS are too low indicating complete absence of degradable organics in the Bhelwa river again an indication of presence of a strong oxidizing agent, such as hypochlorite. The values of TDS, Chloride, Sodium as well as Potassium are increasing from upstream to downstream of the unit's premises confirms addition of chemicals by the industry in to Bhelwa river also.



5. The samples collected from upstream and downstream of the confluence of Bhelwa River to Koel river indicate that though pH is more or less constant but there is considerable increase in the values of all other parameters such as TDS (295-1286 mg/l), Cl⁻ (87-544 mg/l), Na (185-299 mg/l), Alkalinity (102-211 mg/l), Hardness (176-444 mg/l), Ca (45-75 mg/l), Mg (16-62 mg/l), SO₄ (35-81 mg/l). Increment in the values of other parameters such as phosphate, Nitrate etc. can also be observed.
6. The samples collected from Hand pumps from Sabauna, Ghordiha, Pratappur, Nawadih and Belchampa villages indicate that the underground water is still more or less within permissible limit with certain exceptions such as F for Sabauna, Pratappur and Nawadih villages.
7. Samples Collected from two STP outlets indicate satisfactory performance of STPs (2 nos). However, the unit was by-passing untreated domestic wastewater into Bhelwa river behind the guest house.
8. The brine sludge lagoon capacity was found exhausted and it is filled more than the available storage capacity above the top level of bund. Illegal/indiscriminate disposal with ongoing production of about 50 MT/day brine sludge could not be ruled out.
9. Unit has not provided the pumps/conveyance line for the transfer of surface run off/ leachates from collection pit at Brine sludge storage lagoon to ETP for treatment.
10. The lagoon provided for Calcium Hypo Chlorite sludge is in abandoned condition, which may results in run off/seepage of hypo sludge into Chhaliya drain just behind the lagoon.
11. The water in Chhaliya drain, Bhelwa river and river North Koel is found contaminated due to discharge/seepage from the lagoons/dump sites located in the premises.
12. Water quality of Bhelwa river and Chhaliya drain, which is recipient surface water body of discharge from the unit's premises and river North Koel is deteriorated at d/s location, which could be due to discharge of wastewater from the unit's premises.
13. The unit does not have valid permission from the office of Water Resource Department (WRD), Government of Jharkhand w.e.f. 01.04.2017 as the agreement was expired on 31.03.2017.

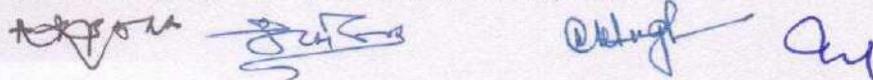


14. Out of 13 types of Hazardous Wastes unit has not obtained Haz. Waste Authorization for 10 categories of hazardous waste from ISPCB for generation, collection, utilization, storage and disposal.
15. The water of Chhaliya drain and Bhelwa river gets contaminated within the unit's premises, which indicates that the unit is discharging wastewater into Chhaliya drain and Bhelwa river and not achieving Zero Liquid Discharge (ZLD).
16. Adequacy and performance of Effluent Treatment System/ ZLD system could not be verified as the unit and ETP were not operational.
17. Effectiveness of the sprinkler provided for controlling fugitive emission and ash handling system could not be assessed due to non-operational condition of unit.
18. Flow meter is not provided at inlet of ETP, inlet and outlet of STPs.
19. Logbook for the generation and disposal of bottom ash is not maintained by unit.
20. Acidic effluent was found discharged into Chhaliya drain which may be due to discharge of untreated/partially treated effluent by M/s K.G. Industries, located at the u/s of M/s Grasim Industries Ltd.

12.0 Environmental Compensation

12.1 Environmental Compensation for affecting quality of North Koel river

1. A complaint was submitted to Hon'ble NGT vide letter dated 22.07.2018 w.r.t. a pollution of ground water by the industries including Aditya Birla Chemicals, Rehla, District Palamu on account of fly ash by way of industrial process. The water is used for making caustic soda and thereafter toxic effluents are discharged, affecting the public health in Palamu District.
2. As per the analysis result of samples collected during inspection dated 16.01.2020 and 17.01.2020, it is found that the unit is affecting the quality of North Koel river by discharging effluent through Chhaliya drain which meets Bhelwa river within premises of the unit and Bhelwa river confluence with river North Koel at down stream of the unit's premises. Hence, the following EC has been calculated as per the "Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund" acknowledged by



Hon'ble NGT vide order dated 19.02.2019 in the matter of Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors In O.A. No. 93/2017 considering as "Intentional discharges to the environment land, water and air resulting into acute injury or damage to the environment":

Environmental Compensation (EC) = PI × N × R × S × LF

Where,

PI = Pollution index of industrial sector (here-80 for red category industrial sector),

N = Number of days of violation took place (here-545 days has been considered, from date of complaint submitted to Hon'ble NGT vide letter dated 22.07.2018 to continuous violation observed during inspections carried out in between and also same violation observed during inspection of joint team dated 17.01.2020)

R = A factor in Rupees for EC which may be a minimum of 100 to maximum of 500 (R to be taken as 250 in case of violation)

S – Factor for scale of Operation of the facility (here-1.5, for large scale industry)

LF = Location factor (Here-1.25, for 1 million to <5 million population)

As per the EC formula, EC has been calculated as follows:

$$\begin{aligned} \text{EC} &= \text{PI} * \text{N} * \text{R} * \text{S} * \text{LF} \\ &= 80 * 545 * 250 * 1.5 * 1.25 \\ &= \mathbf{2,04,37,500/-} \dots \dots \dots \mathbf{(I)} \end{aligned}$$

The unit is liable to pay total Environmental compensation amount of **Rs. 2,04,37,500/-** for affecting the quality of North Koel river by discharging effluent through Chhaliya drain for the period of 22.07.2018 to 17.01.2020.

12.2. Environmental Compensation for not managing Wastes as per Hazardous waste and other Waste (Management and Transboundary Movement) Rules, 2016.

As per the methodology prepared by CPCB on "Determination of Environmental Compensation for violation of Hazardous waste and other Waste (Management and Transboundary Movement) Rules, 2016" financial penalty and Environmental Compensation have been calculated as follows;

Financial Penalty

The unit was found violating 03 provisions (at Sl. No. 1, 6 (a) and 6(B)(d)(c)) of HOWM Rules, 2016 for which 03 lakhs financial penalty may be imposed.

Total amount determined as a penalty for violation of Hazardous waste and other Waste (Management and Transboundary Movement) Rules, 2016 is Rs. 3,00,000/ .

= Rs. 3,00,000/-.....(II)

12.3. Total Environmental Compensation

1. Total Environmental Compensation affecting the quality of North Koel river by discharging effluent through Chhaliya drain into North Koel river through Bhelwa river and for not managing Hazardous waste and other Waste (Management and Transboundary Movement) Rules, 2016 is as below:

=(I) + (II)

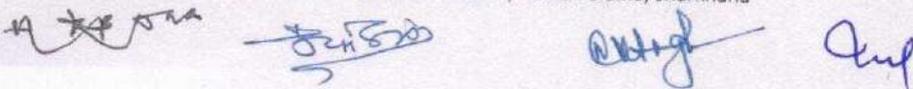
=Rs. 2,04,37,500 + Rs. 3,00,000

=Rs. 2,07,37,500/-

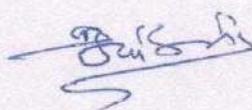
The unit is liable to pay total Environmental compensation amount of **Rs. 2,07,37,500/-**

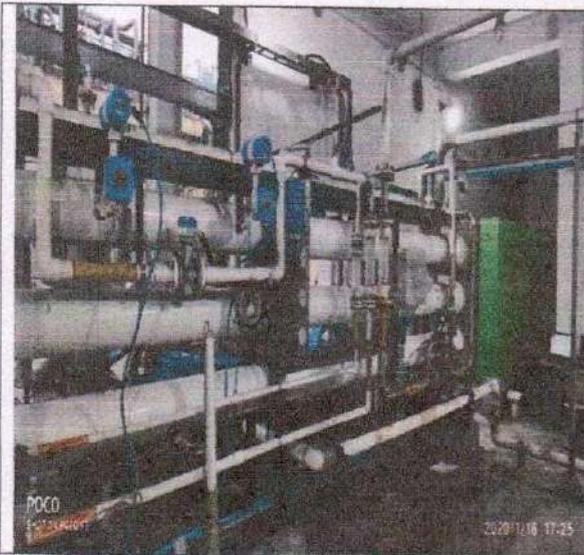
13.0 Recommendations

1. Unit shall ensure that no domestic wastewater discharged into Bhelwa River without proper treatment.
2. Unit shall not be allowed to operate until new lagoon for storage of brine sludge is constructed, as the existing lagoon capacity is found exhausted.
3. Unit shall make sure, no untreated/partially treated effluent and seepage/run-off from the Calcium Hypo Chlorite lagoon/dump sites are discharged into Chhaliya drain.
4. Unit shall get renewed water agreement from the office of Water Resource Department (WRD), Government of Jharkhand.
5. Authorization for all 13 types of Hazardous Wastes shall be obtained from JSPCB for generation, collection, utilization, storage and disposal and shall maintain the records.
6. Adequacy and performance of Effluent Treatment System/ ZLD system, effectiveness of sprinkler and ash handling system need to be verified once the unit came in operation.



7. Flow meters at inlet of ETP, inlet and outlet of STPs shall be provided.
8. Unit must maintain Logbook for the generation and disposal of bottom ash.
9. Suitable direction may be initiated by JSPCB against M/s K.G. Industries, located at the u/s of M/s Grasim Industries Ltd. for discharging Acidic effluent into Chhaliya drain.
10. The disposal of Brine sludge shall be made in scientific manner.
11. The abandoned lagoon of Calcium Hypo sludge shall be capped scientifically so that run-off/seepage from the lagoon can be stopped.
12. Provision for pumping and conveyance line for transfer of surface run off/ leachates from collection pit at Brine sludge storage lagoon to ETP for further treatment shall be provided.
13. The logbook for the generation and disposal of bottom ash shall be maintained.
14. Environmental Compensation of Rs. **2,07,37,500/-** shall be levied for intentional discharges to the environment -on land and water resulting into acute injury or damage to the environment.





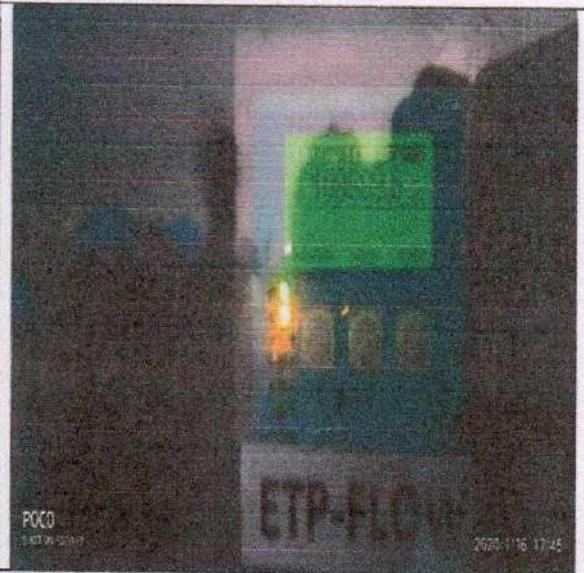
RO system



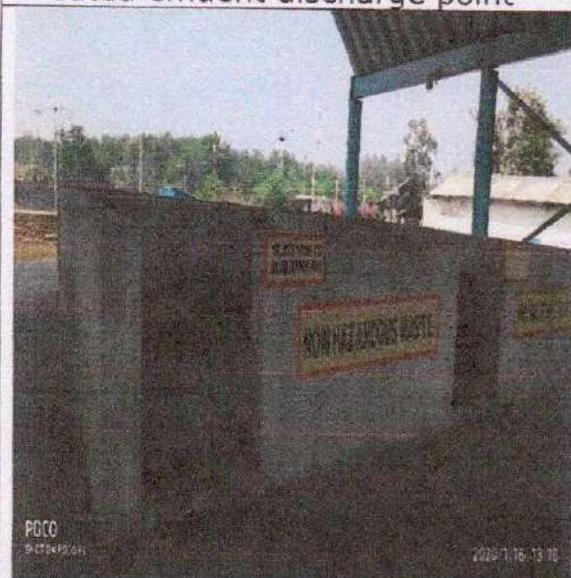
MEE and ATFD



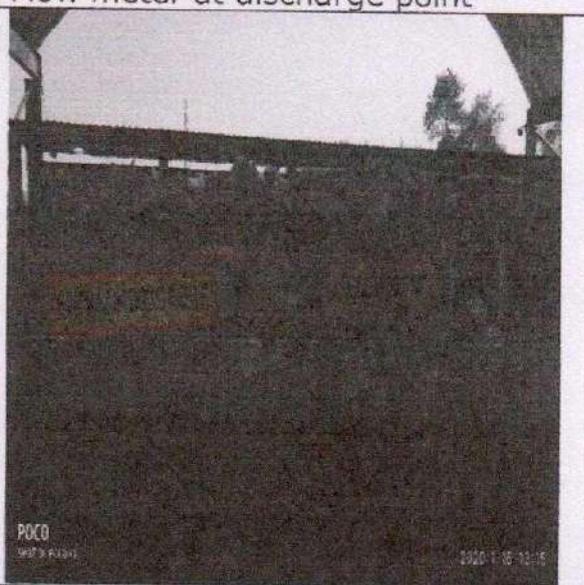
Treated effluent discharge point



Flow meter at discharge point



Hazardous waste storage area



Non-Hazardous waste storage area

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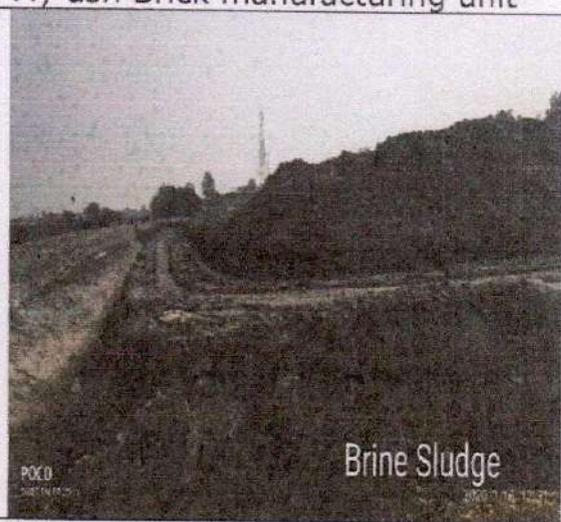
Coal yard



Fly ash Brick manufacturing unit



Capped lagoon of Mercury sludge



Brine Sludge

Brine sludge storage lagoon



Brine sludge leachates collection pit

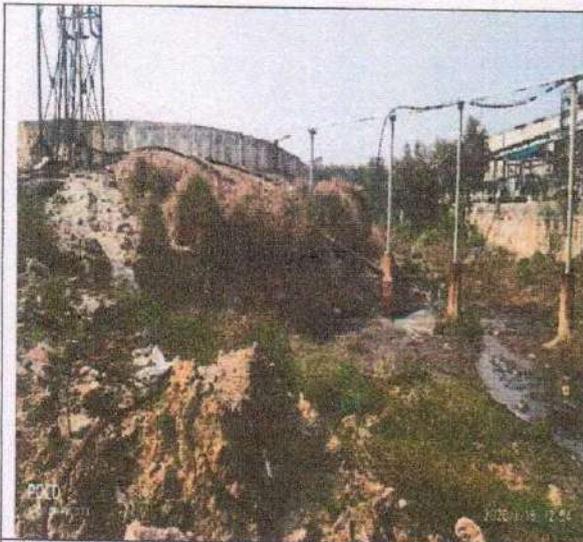


Ca- Hypo sludge storage lagoon

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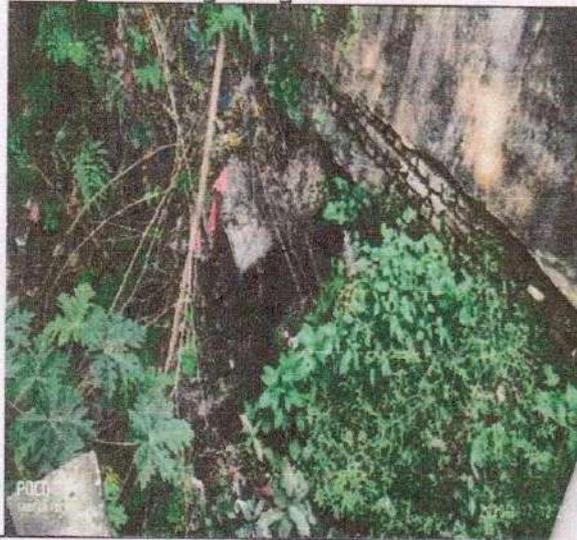
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Chhaliya drain adjacent to hypo sludge storage lagoon



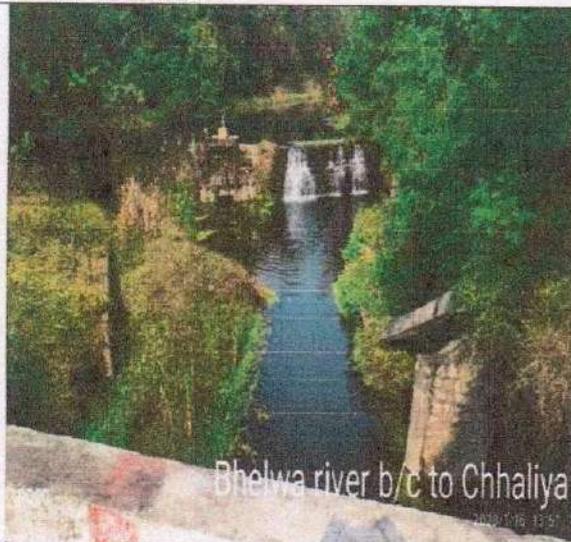
Biological reaction cum settling tank at STP near brine sludge lagoon



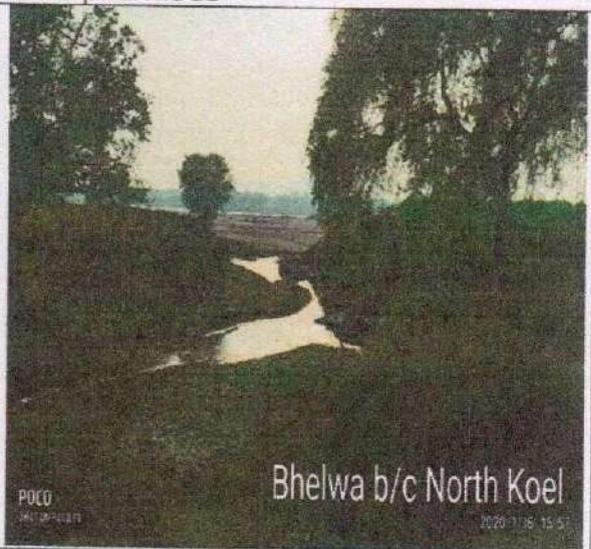
Untreated sewage discharged to Bhelwa River



Chhaliya drain flowing through the unit premises



Bhelwa River b/c to Chhaliya drain



Bhelwa River b/c to river North Koel

[Handwritten signatures and initials]



15.0 Signature of the inspecting officials

Date of Inspection: 16.01.2020 & 17.01.2020

Name of the inspecting officers	Designation	Signature
1. Sh. M.K. Biswas	Scientist-'D', CPCB Delhi	
2. Sh. C. B. Chourasia	Scientist- 'E', CPCB Delhi	
3. Sh. R.N. Kashyap	RO, Ranchi, JSPCB	
4. Dr. R. K. Singh	Scientist-'D', CPCB Delhi	
5. Sh. A. K. Naskar	Scientist-'C', CPCB Kolkata	



JHARKHAND STATE POLLUTION CONTROL BOARD

TOWNSHIP ADMINISTRATION BUILDING, HEC COMPLEX, DHURWA, RANCHI 834004

Telephone: 0651-2400850 (Fax)/ 2400851/2400852/2401847/2400979/2400139

Ref No. JSPCB/HO/RNC/CTO-1024931/2016/1062

Dated : 2016-12-23

Consent to operate (CTO) under section 25 /26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981

1. Application (s) dated 2016-08-31 of Grasim Industries Ltd. Chemical Division Rehla, Occupier Name :Dilip Gaur for consent under section 25 (1) (b)/25 (1) (c)/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21(1) of the Air (Prevention & Control of Pollution) Act,1981.

2. **Documents Relied Upon:**
 - (a) The content of EC Ref. No.- J-11011/1213/2007/-IA-II(I) MOEF, Dated 11.02.2009.
 - (b) The content of Consent-to-Establish (CTE), vide Ref. Nos. (i) 3839, dated. 26.10.2007 for Caustic Soda Lye-225 to 300 TPD; (ii) G-341, dated. 22.01.2014 for CPP- 30 MW to 60 MW and (iii) G-2692, dated. 17.07.2014 for Caustic Soda- 300 to 550 TPD.
 - (c) The content of Consent-to-Operate (CTO), Ref No.- G-5929, Ranchi, Dated - 31.12.2015.
 - (d) The content of CTO of RM supplier of M/s Puja Minerals Pvt. Ltd. for Hydrated Lime- 36000 TPA and Quick Lime- 45300 TPA from RJPCB.
 - (e) The content of Inspection Report (I/R) Ref. No.- 1665, Dated- 13.10.2016.

3. The consent is granted under section 25 / 26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 to operate the project in Mauza -Dandila , P S -Rehla , District -PALAMU , as follows:

Project	Site-Area		Investment (Rs)	Product & Capacity	Period of CTO	Total
	Plot Nos.	Area				
Before Expansion		12706.9 Sqm	245 Crore	(1) Caustic Soda - 550 MT/Day, (2) Electricity Generation-60 MW, (3) Aluminium Chloride -50 TPD, (5) Stable Bleaching Powder - 50 TPD, (4) Hydrogen Boiler & Botlling Plant 4 TPH & Hydrogen Boiler 4TPH	01.01.2017 to 31.12.2021	

(A) **General Conditions :**

(1) That, the occupier shall comply with all conditions of EC, Ref No J-11011/1213/2007/-IA-II(I) MOEF , Dated 11/02/2009, CTE, Ref No G-2692 , and dated 17/07/2014 , previous CTO, Ref No G-5929dated31/12/2015 and shall submit report to this effect with supporting documents.

(2) That, the occupier shall maintain the ambient air quality within the standard given below:

S N	Parameter	Standard
1	Respirable Suspended Particulate Matter	100 µg/Nm ³
2	Sulphur Dioxide	80 µg/Nm ³
3	Oxides of Nitrogen	80 µg/Nm ³

(3) That, the occupier shall maintain the emission quality within the standard and the quantity, as follows:

S N	Parameter	Standard
1	Particulate Matter	150 mg/Nm ³

(4) That, the occupier shall keep process effluent in close-circuit and the quality of effluent from other sources in conformity with the standard (s) and the discharge quantity as below:

S N	Parameter	Standard
1	Total Suspended Solids	100 mg/L
2	BOD	30 mg/L
3	COD	250 mg/L
4	Oil & Grease	10 mg/L
5	Quantity of Discharge	1.0 KL/T Caustic Soda produce excluding cooling Tower Blow Down

(5) That, the occupier shall dispose of solid wastes as follows:

S N	Waste Type	Mode of Disposal
1	Non-Carbonaceous Non-Hazardous solid wastes/ Mine Over Burden	As a substitute of Soil or Mineral
2	Hazardous Carbonaceous Wastes	In co-processing in high temperature furnaces or kilns
3	Hazardous Non-Carbonaceous Wastes	In TSDF

6. That, the occupier shall keep D G Set(s) within acoustic enclosure (s) and shall keep the height(s) of exhaust pipe(s) as per Central Pollution Control Board norm.

7. That, the occupier shall install and maintain Central Ground Water Board/ State Ground Water Directorate approved system of rain water harvesting-cum-ground water recharge.

8. That, the occupier shall create and maintain new water body (ies) / remove deposit(s) of existing water body(ies) and nearby stream(s) and pond(s) and shall maintain the wholesomeness of water.

9. That, the occupier shall grow and maintain greenery in the periphery and other available spaces and shall continue enhancing its plant density and biodiversity.

10. That, the occupier shall submit environmental statement with supporting stoichiometric calculations analyses reports, before 30th September every year.

11. That, the occupier shall submit report(s) duly monitored and issued by an NABL/ISO 9001 with OHSAS 18001 accredited laboratory in compliance of sub-para (2), (3), (4) and (5) of paragraph 3 of this CTO quarterly.

12. That, the occupier shall comply with all applicable provisions of the Water (Prevention & Control of Pollution) Act, 1974; the Water (Prevention & Control of Pollution) Cess Act, 1977; the Air (Prevention & Control of Pollution) Act, 1981; and the Environment (Protection) Act, 1986 and Rules there under.

(B) Specific Conditions:

- (1) That, the occupier shall maintain and operate systems for online monitoring of ambient air quality and stack emission and effluent quality with connectivity to Jharkhand State Pollution Control Board server.
- (2) That, the occupier shall establish and operate well equipped environmental laboratory with facilities to monitor at least all regulatory parameters and duly accredited by NABL.
- (3) That, the occupier shall install and operate a continuous Ambient Air Quality monitoring Station at Factory site in which chlorine and hydro-chlorine acid gas should also be parameters with connectivity to Jharkhand State Pollution Control Board, head office server.
- (4) That, the occupier shall complete the installation and transmission work of online stack monitoring system with all 6 stack up to 31.12.2016 failing which B.G. shall be forfeited.
- (5) That, the occupier shall submit effluent analysis report of STP quarterly and shall bring its treated water in captive use in entirety.
- (6) That, the occupier shall keep waste water including wash water of plant in close circuit.
- (7) That, the occupier shall transmit the stack emission data through newly installed online emission monitoring system in "Hypo plant and in 'CPP' to Jharkhand State Pollution Control Board by 31.03.2016.
- (8) That, the occupier shall transmit all the relevant pollutants data through newly installed CAAQMS to Jharkhand State Pollution Control Board.
- (9) That, the occupier shall maintain the quality of emission of "Hypo Plant", "HCL Plant", "CPP" and other plants or points and that of effluent (if any) within the norms and shall submit monitoring report monthly.
- (10) That, the occupier shall maintain the emission quantity of Chlorine from Hypo Tower within 15 mg/Nm³ and hydrochloric acid vapor & mist from HCL plant within 35 mg/Nm³.
- (11) That, the occupier shall submit compliance report of above conditions quarterly to the Board failing which the Bank Guarantee of Rs. 10.00 Lac, vide BG no. 087GT02140110001, dated. 11.01.2014 with extended validity up to 31.12.2016 will be forfeited.
- (12) That, the occupier shall re-validate the Bank Guarantee of Rs. 10.00 Lac with extended validity up to 30.06.2017 by 30-11-2017.
- (13) That, the occupier shall provide Fly Ash for road construction project/Public Works Department/ manufacturing of ash based products/use of soil conditioner in agriculture activity within a radius of three hundred kilometres.
- (14) That, the occupier shall upload on their website the details of stock of types of ash available with them along with the quantity of fly ash utilized at least once a month and shall install dedicated dry ash silos.
- (15) That, the occupier shall ensure utilization of Fly Ash as per the time frame fixed in the rule.
- (16) That, the occupier shall submit annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provision in the notification by the 30th day of April, every year to SPCB, CPCB and Concerned Regional Office of MoEF & CC.
- (17) That, the occupier shall submit compliance report of CTO Conditions every year to the Board.
- (18) That, the occupier shall submit applications for renewal of consent under section 25 / 26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 again 120 days prior to the date of expiry of this consent i.e. 31.12.2021 with documents showing compliance of all of the above conditions.

4. The Order shall be valid subject to compliance of all other legal requirements applicable to the unit.
This is issued with the approval of the Competent authority

Memo No. : JSPCB/HO/RNC/CTO-
1024931/2016/1062

SUMAN
SANJAY
KUMAR

[Sanjay Kumar Suman]
Member Secretary

Dated : 2016-12-23

Copy to: M/s Aditya Birla chemicals (India) Limited, At-Garhwa Road , Rehla, Distt- Palamau/ Director of Industries, Government of Jharkhand, Ranchi/ Director of Mines, Government of Jharkhand, Ranchi/ Chief Inspector of Factories, Ranchi/ Deputy Commissioner, Palamau/ DFO, Palamau/ DMO, Palamau/ Regional Officer, RO, Ranchi for information & ensuring compliance of the above conditions. He is requested to examine the compliance report and shall submit report to H.Q. year wise.

SUMAN
SANJAY
KUMAR

Digitally signed by SUMAN KUMAR
SANJAY
KUMAR
DN: cn = SUMAN KUMAR SANJAY
KUMAR, o = JSPCB, ou = JSPCB, email =
suman.kumar@jpcb.org, c = IN
Date: 2016.12.23 14:57:38 +05'30'

[Sanjay Kumar Suman]
Member Secretary



झारखण्ड JHARKHAND

842211

WATER AGREEMENT

AGREEMENT FOR WATER SUPPLY FROM NORTH KOEL RIVER (Name of River) TO ADITYA BIRLA CHEMICALS (INDIA) LIMITED (formerly BIHAR CAUSTIC & CHEMICALS LIMITED) (Name of company)

This Agreement made on this 26th day of November two thousand twelve between Governor of Jharkhand through Water Resource Department (WRD), Government of Jharkhand hereinafter referred to as

"The Government" which term shall unless excluded by or repugnant to the context, includes its legal representatives, successors, executors, administrator & assigners on the one part & **ADITYA BIRLA CHEMICALS (INDIA) LIMITED (formerly BIHAR CAUSTIC & CHEMICALS LIMITED) (Name of Company)** having its registered & administrative office at Garhwa Road, P.O. Rehla - 822124, Distt. Palamau (**Address of Company**) and works office at Garhwa Road, P.O. Rehla - 822124, Distt. Palamau (**Local office address of the Company**) hereinafter referred to as "**The Company**" which expression shall unless excluded by or repugnant to the context of the meaning thereof, be deemed to include its successor and assigners and also mean

[Signature]

[Signature]

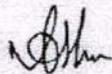
ADITYA BIRLA CHEMICALS (INDIA) LIMITED (formerly BIHAR CAUSTIC & CHEMICALS LIMITED) (Name of the Company) for all transactions & acts.

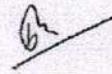
Whereas the Company approached the Government on 10.03.2012 (**Date**) for allowing to pump Minimum 1.892 MCM and maximum 2.646 MCM of water on annual basis from the North Koel River at Latitude 24° 10' N (**Degree, Minute, Second**) North & Longitude 83° 52' E (Degree, Minute, Second) East for setting up (renewal of Agreement) (**Type & capacity of the plant**) and whereas the Government is in a position to allow withdrawal of Minimum 1.892 MCM and maximum 2.646 MCM on annual basis of water as per the concurrence issued by Water Resource Department (WRD), Government of Jharkhand to **ADITYA BIRLA CHEMICALS (INDIA) LIMITED (formerly BIHAR CAUSTIC & CHEMICALS LIMITED)** (Name of Company) vide letter no. Chief Engg. (Mo)/394/02/(Phase-2)/553/Ranchi dated 26.05.2009 (Letter no & date) and the parties hereto have agreed to have a formal agreement in this regard.

Now its is hereby agreed by and between the parties as follows :

1. That "The Government" agrees to allow 302 m³/hr (2.646 MCM/Annum) **withdrawal** of required quantity of water as per the details given herein at para 2.1 below :
2. The water withdrawal schedule for the plant :

PERIOD	QUANTITY OF WATER TO BE DRAWN DURING THE YEAR (in MCM)
01/04/2012 to 31/03/2013	2.646
01/04/2013 to 31/03/2014	2.646
01/04/2014 to 31/03/2015	2.646
01/04/2015 to 31/03/2016	2.646
01/04/2016 to 31/03/2017	2.646

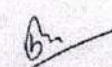
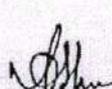




- 2.1 The water charges of quantity of water to be drawn by the Company will come into effect from the period as indicated in column-1 of the table at para - 2 above.
- 2.2 The quantity of water to be drawn will be restricted to Minimum 1.892 MCM and maximum 2.646 MCM on annual basis and the measurement of water will be done at the intake point. The measurement of this quantity of water will be checked up jointly by the consumer and the representative of Water Resource Department, Govt. of Jharkhand (WRD, GoJ) at least in every month. The measuring instruments shall be installed by the consumer at his own cost and shall remain exclusively under the control of WRD, GOJ).

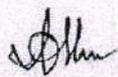
A. General condition to be made applicable to any industry under consideration.

- A.1 The availability of water may be interrupted temporarily for doing repairs or for such other works on the basis of jointly signed protocol & such interruption shall not ordinarily exceed thirty days. No claim by the Company shall be preferred against the Government for such fluctuation in the discharge.
- A.2 The quantity of water indicated in para - 2 is based on the phasing demand of water put up by the Company. In future, if it is found by computation as based on scientific methodology or otherwise that the consumption of water is more than as indicated in para - 2, charges for such enhanced quantity of water so assessed, shall become payable to Government by the Company.
- A.3 The Company will install a water meter near the point of intake to measure the quantity of water pumped. If the quantity of water exceeds the quantity mentioned in para - 2, the company will have to pay the bill based on actual withdrawal of water as per meter reading, but the minimum water rent for supply of water will be charged for the quantity as indicated at para -2.
- A.4 **The Company will have to establish online monitoring system of water drawl based on latest technology available at its own cost as and when the same will be implemented by WRD, Govt. of Jharkhand.**
- A.5 The Government will not be responsible for any interruption of diminution or stoppage of supply of water due to lockout, strikes,



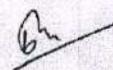
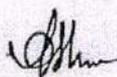
breakdowns of mechanical units or other force majeure or other causes beyond the control of the government. In view of the production technology & need of water supply or some other usage, the Government shall take such action, as is deemed necessary to restore availability of water with the least possible delay & ensure resumption of interruption or diminution or stoppage of water supply within shortest period.

- A.6 If due to any unforeseen reasons, the Govt. is not able to make available the quantity of water as envisaged in para 2, no legal action can be taken against the Govt.
- A.7 The Company will make sure that the affluent (waste water along with Pollutants), if needed to be drained in the river or nala, will conform to the latest prescribed affluent quality parameters as prescribed by State Pollution Control Board and shall be safe for disposal in river or nala and shall not be injurious to human and aquatic life. The Water Resource Department as well as authorities superficially authorized in this regard will also get the test checks conducted at regular interval to testify the same. The installation of equipment or plant needed for this purpose, shall be done by the Company. The Company will also have to get clearance from the respective State Pollution Control Board and submit the report to WRD at regular interval not exceeding one year for continuance of supply of allocated water. The effluent disposal point should be fixed in the upstream of the respective intake point.
- A.8 The Company shall make every endeavour to use the minimum possible water and shall make use of all latest technology to reduce the extant of usage of water.
- A.9 That the required water will be withdrawn or pumped by the company from the Right (Left/Right)bank of river North Koel (Name of river) by constructing a suitable water harvesting structure and intake near plant site at Rehla (Location of the drawl point)
- A.10 That the cost of land required for building intake well, pump house, water meter & other allied infrastructure shall be borne by the Company.
- A.11 The company shall pay water charge at the rate fixed by the WRD, GOJ from time to time. As and when this rate is revised by the WRD from time to time, the company will be required to make



payment at the revised rates of water charge. The rate fixed by the Government shall be binding on the Company.

- A.12 All the infrastructure including the intake and water harvesting structure **commensurate with the requirement of water as per stipulated in para -2** needed for uninterrupted drawl of water shall be constructed by the Company at their own cost, as per the design/drawing approved by the WRD,. GOJ. The construction of the infrastructure shall be taken up by the Company only after joint inspection of the water tapping point by the representatives of WRD, GOJ and the company and approval there on by the WRD, GOJ. This infrastructure shall be operated and maintained by the Company at their own cost.
- A.13 That the formal approval of the Government on detailed design, drawing & specification of the water harvesting structure, intake well, pump & pump house shall be obtained by the Company within six months from the date of signing of Agreement.
- A.14 The WRD will have the right to inspect the infrastructures from time to time and suggest corrective mechanism for removing the deficiencies, if any. The Company will have to undertake the remedial measures, as suggested by WRD, at their own expenses.
- A.15 The Company shall have to bear the cost of rehabilitation and resettlement of the families so displaced. The cost of land acquisition, forest land compensation, etc., as per prevailing norms of the Government, shall have to be borne by the Company. The Company shall also obtain forest, environmental and other mandatory clearances, wherever required from the concerned departments/ Ministry of the State Government/Government of India.
- A.16 The Company will not be allowed to draw additional water than the committed above without specific permission.
- A.17 The Company shall utilize the water for the agreed purpose only and will have no right to sublet this water to any other company.
- A.18 The Govt. will have right to review the quantum of water required by the Company for its bonafide usage, and shall be at liberty to reduce the quantum as allocated in para -2, so as to optimize the usage of water in the interest of the State.
- A.19 The Company has to liaison with the concerned Chief Engineer, WRD to sign an agreement related to the utilization of allocated



water and making payment of the water charge, as per the terms and conditions stipulated under para - A.11 of this agreement. The allocation of water will come into effect from the day of execution of the Agreement with the WRD, Jharkhand.

- A.20 The Company shall install appropriate devices to minimize water use consumption and also provide for recycling & conservation of industrial water.
- A.21 The drawl of water from intake structure, shall under no circumstances be detrimental to the safety and operational procedures of reservoirs/barrages lying in the upstream or downstream or on both sides of the intake structure.
- A.22 The Company will have to go for the construction of Rain Water Harvesting (RWH) Pond and Pit of appropriate capacity as per the design, and plan approved by Ground Water Directorate, Water Resource Department (WRD), Govt. of Jharkhand at his own cost for the conservation of rain water to meet the water demand of the plant during emergency/non-monsoon period and also for ground water recharging commensurate with ground water withdrawn for meeting only the domestic water demand during exigency.
- A.22.1 A comprehensive plan of Rain Water Harvesting Project for ground water recharging must be submitted by the Company to Ground Water Directorate of Water Resource Department, Govt. of Jharkhand **within two months** from the date of signing of Agreement under the intimation to WRD, GOJ. This plan has to get approved by Ground Water Directorate, WRD, GOJ **within one month** from the date of submission of the above plan.
- A.22.2 Rain Water Harvesting Project for ground water recharging must be completed within three months from the date of approval of the plan.
- A.23 The Company will have to construct a reservoir at a suitable location to meet water requirement of the plant during non-monsoon (November to May) on the basis of the realistic quantum of water availability computed with the help of actual observed hydro-meteorological data from where there it has been intended to meet the water demand of the plant. Lean season flow of the river will not be intercepted at all. **To ensure this, inlet in the intake well will be provided above lowest water level (LWL) which will be fixed by the concerned Chief Engineer, WRD, after approval of WRD,GOJ.**



- A.24 The flood water will be optimally stored and utilized by the installation of a rubber dam/a series of rubber dams or any other suitable techniques for flexible storage at suitable locations across the river (from where the water is to be drawn) by the company at this own cost. The storage planning will be approved by WRD,GOI.

The designed height of the flexible storage dam will be resorted during flood period only the inflating/raising it to store the flood water within the river section and also to store it into some other suitable storages limited to the quantity of water earmarked to the industrial unit. This height of flexible dam will be gradually decreased and finally deflated/lowered fully in accordance with the balance quantity of flood water needed to be stored. However, the height of the flexible storage dam during normal flow of the river will not exceed the upstream level of the river on which the irrigation/municipal/industrial projects have been planned in the downstream. The water levels at different river flows near to the flexible dam site in the upstream will be marked by the Company at his own cost. These marked water levels of the river will be finally checked and approved by the WRD,GOJ.

The Company at his own cost has to remove the silt from the river bed likely to be deposited in the upstream of the rubber dam just after the monsoon each year to ensure no adverse impact on the river regime.

- A.25 A joint review by the representatives of Govt. of Jharkhand and the Company shall be made periodically at least once in every three years on the observed industrial water consumption pattern of the unit to assess the possibility and the technological interventions needed for reducing down the quantum of industrial water already earmarked in order to effect the same from the mutually accepted data.
- A.26 That the accounting year, shall be from 1st April to 31st March of two consecutive calendar years. The bills for payment of water charges shall be prepared by the government every month on the basis of demand stipulated in para - 2, 2.1 & 2.2.
- A.27 The Company shall ensure to make payment of the bill within 30 days of its presentation, failing which a penalty at the **rate of 10% of the water rate in prevalence** as on the concerned date shall be charged over and above the normal rate. If however, any discrepancy or error is found in the bill the same will be intimated to the government within 15 days for necessary rectification, but the

payment against the original bill will have to be made within stipulated period. The rectification in the bill, however will be adjusted in the next accounts and accordingly the next bill be charged from the company.

- A.28 In case of non-payment of water charge for more than two consecutive months by the company, the government shall have the right to stop withdrawal of water from the river by the Company.
- A.29 That the date of receipt of the bill or the revised bill, as the case may be at company's office, will be treated as the date of receipt from which date the period of 30 days or 15 days referred to above, would be counted.
- A.30 All disputes and differences, except the matter for which provision has been expressly made in the Agreement between the parties arising out of or in connection with the Agreement, shall be referred to the Arbitrator will be an officer of WRD, Jharkhand and not below the rank of Superintending Engineer & will be nominated by the State Government. There shall be no objection to the appointment of the Arbitrator on the ground that the Arbitrator so appointed, is a State Government servant or that he had to deal with the matters to which this agreement relates to and that in the course of his duties as Government servant, he had expressed views on all or any of the matters in disputes or differences. The provision of the Arbitration and Conciliation Act, 1996 & any statutory modification thereof for the time being in force, shall apply.
- A.31 **This agreement shall remain valid for a period of five years.** For making a fresh agreement, the Company will be required to submit an application to the department 6 months period to expiry of the existing agreement. The fresh agreement will be executed after reviewing the average actual usage by the Company. In case, the average utilization of water during the last four years have been less by more than 10%, the company will have to submit the justification to WRD for allocating the earlier quantum of water as envisaged in para-2 or else the WRD will revise the allocation of water.

In case the company do not submit the application to WRD within the stipulated time frame or submit the application after the stipulated time frame without substantiating the justification for the allocation of earlier quantum of water, the WRD will have the right to reduce the water allocation to the average use of water made by

the Company during the last four years or to the quantity to which the WRD deems fit.

A.32 **In case the company violates any of the conditions stipulated in this Agreement, WRD, GoJ will be free to take decision regarding termination of the Agreement.**

B. **Specific technical conditions to the Industry on case to case basis.**

WRD, GoJ will be free to include any specific technical condition/conditions to the industry on case to case basis as and when required and mutually agreed between either parties, **in Annexure - A which will be treated as part of this Agreement.**

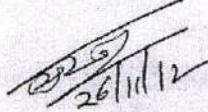
In Witness whereof, the parties of this Agreement have herein put their respective hands & seals, the day and year of Agreement first above written.

Signed, seal & delivered on behalf of (Name of Company)

For Aditya Birla Chemicals (India) Ltd.
(Formerly Bihar Caustic & Chemicals Ltd.)


(Akash Mishra)
Company Secretary

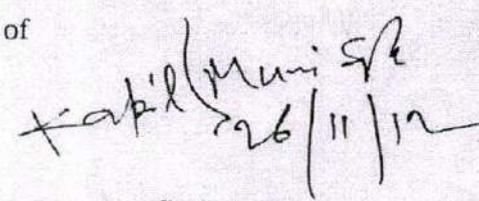
Signed, seal & delivered on behalf of
**Governor of Jharkhand through
Water Resource Department,
Government of Jharkhand.**


मुख्य अभियंता
जल संपादन विभाग
मेदिनीनगर

In presence of


K.H. Mishra
Sr. Manager (C. Lab)
ABCIL, Rehis.

In presence of


कार्यपालक अभियंता
जलपथ प्रमंडल
मेदिनीनगर

ANNEXURE - A

Specific Technical Conditions to the Industry

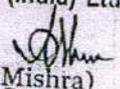
1. The drawl of water will be done by the Company **from the intake point** located at Lat. 24° 10' N and Long. 83° 52' E from North Koel River (name of the river/tributary/nala) and or through the storage constructed for this purpose by the Company at Lat. 24° 10' N and Long. 83° 52' E from North Koel River (name of the river/tributary/nala) at Rehla, District Palamau (name of the place, block and district).
2. The drawal of water must start as per the schedule indicated in **clause-2 of the Agreement.**
3. The schedule of drawal of water must start within two years from the date of signing of Agreement.
4. **In the event** of delay in drawal of water as per schedule indicated in clause -2 of the Agreement, **the delay will be penalized as below:**

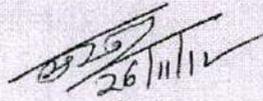
(i) Upto one year delay from schedule mentioned in clause - 2 of the Agreement.	(i) 25% of Water charges for the quantity of water drawal indicated for the 1st year under column-2 of the table in clause-2 of the Agreement.
(ii) Upto two years delay from schedule mentioned in clause- 2 of the Agreement.	(ii) 50% of water charges for the quantity of water drawal indicated for the 2nd year under column-2 of the table in clause -2 of the Agreement.
(iii) Beyond two years delay from schedule mentioned in clause- 2 of the agreement.	(iii) Full water charges for the quantity of water indicated for the 3rd year and onwards under column-2 of the table in clause-2 of the Agreement.

5. The schedule of drawal of water will be fixed in such a manner so that the **total quantity of water allocated** must be drawn **within five years** from the starting date of the scheduled water drawal as per clause-2 of the Agreement. The quantity of water which can not be used within five years will be deemed as surrendered and dereserved.

Signed, seal & delivered on behalf of (Name of Company)	Signed, seal & delivered on behalf of Governor of Jharkhand through Water Resources Department, Government of Jharkhand.
--	---

For Aditya Birla Chemicals (India) Ltd.
(Formerly Bihar Caustic & Chemicals Ltd.)


(Akash Mishra)
Company Secretary


26/11/12
मुख्य अभियंता
जल ससाधान विभाग
मेदिनीनगर

पत्रांक 295

मेदिनीनगर,

दिनांक 26.03.2019

प्रेषक,

कार्यपालक अभियंता,
जलपथ प्रमण्डल, मेदिनीनगर

सेवा में,

संस्थान प्रमुख,
ग्रासिम इन्डस्ट्रीज लिमिटेड,
केमिकल डिविजन, गढ़वा रोड़, रेहला,
जिला-पलामू (झारखण्ड)

विषय :-

दिनांक-01.04.2019 से संशोधित एवं बर्द्धित दर पर जलकर राशि भुगतान करने के संबंध में।

प्रसंग :-

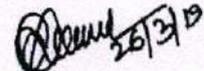
विशेष सचिव, जल संसाधन विभाग, झारखण्ड, राँची का पत्रांक-272 एवं 273,
दिनांक-01.04.2011

महाशय,

विषयांकित प्रासंगिक पत्र के आलोक में कहना है कि दिनांक-01.04.2019 से आपको उत्तर कोयल नदी से जल ग्रहण के एवज में वर्द्धित दर 7.5% की दर से Water Tax का भुगतान करना वांछित है। यानि पूर्व वित्तीय वर्ष में 15.105/1000 Gallon में 7.5% की दर से वृद्धि कर $15.105 + 15.105 \times 7.5\% = 16.237/1000$ गैलन की बर्द्धित दरानुसार अप्रैल 2019 से Water Tax का भुगतान करने हेतु स्मारित किया जाता है।

अतः उपर्युक्त परिप्रेक्ष्य में अनुरोध है कि अप्रैल 2019 से बर्द्धित दर 16.237/1000 Gallon की दर से Water Tax का भुगतान निर्दिष्ट समयान्तर्गत करना सुनिश्चित करें।

विश्वासभाजन


कार्यपालक अभियंता
जलपथ प्रमण्डल, मेदिनीनगर

26/3/19



JHARKHAND STATE POLLUTION CONTROL BOARD
T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.:2400852, 2400851, Fax:0651- 2400850 www.jspcb.org

FORM 2

[See rule 6(2)]

FORM FOR GRANT OR RENEWAL OF AUTHORIZATION BY STATE POLLUTION CONTROL BOARD TO THE OCCUPIERS, RECYCLERS, REPROCESSORS, REUSERS, USER AND OPERATORS OF DISPOSAL FACILITIES

1. No. of authorization and date of issue: JSPCB/HO/RNC/HWM-5607804/2019/107 10/12/2019
2. Reference of application(No. and date): 5607804 27/11/2019
3. Grasim Industries Ltd. Chemical Division Rehla of Vivek V Bhide is hereby granted an authorisation based on the enclosed signed inspection report for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated at Grasim Industries Ltd. Chemical Division Rehla

Details of Authorisation

Sl.No.	Category of Hazardous Waste as per the Schedules I, II and III of these rules	Authorised mode of disposal or recycling or utilisation or co-processing, etc.	Quantity(ton/annum)
1	Schedules I, 5.1	Spent Oil	0.1 TPA
2	Schedules I, 5.1	Used Oil	20 KL/Annum
3	Schedules I, 5.1	Residues Containing Oil	100 TPA

(1) The authorisation shall be valid for a period of 5 years

(2) The authorisation is subject to the following general and specific conditions (Please specify any conditions that need to be imposed over and above general conditions, if any):

A General conditions of authorisation:

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.

5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorisation shall be made as laid down under these Rules.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

B Specific conditions:

1. The authorisation shall comply with the provisions of the Environment (Protection) Act 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the SPCB/PCC.
3. The person authorised shall not rent, lend sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC
4. Any unauthorized change in personnel, equipment as working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorization.
5. It is the duty of the authorised person to take prior permission of the SPCB/PCC to close down the facility
6. An application for the renewal of an authorisation shall be made as laid down under these Rules.
7. Any other conditions for compliance as per the guidelines issued by the MoEF or CPCB.
8. The unit shall submit annual return for the financial year before 30 th June every year.
9. The unit shall dispose off sludge either in secured landfill or shall co-process it in Blast Furnace/ Cement Kiln.
10. The unit shall dispose off used oil and recyclable waste to authorised recycler registered from SPCB/CPCB.
11. The unit shall obtain No. Objection Certificate from the State Pollution Control Board of both States in case of transport of hazardous waste for final disposal to a facility for treatment, storage and disposal existing in a State other than the State under sub rule 20 (3) of the said rules.
12. The unit shall comply manifest system and shall submit a copy of it.
13. Unit shall comply all the conditions otherwise authorisation shall be revoked.

KAMLA Digitally signed
KANT by KAMLA KANT
PATHAK
PATHAK Date: 2019.12.10
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Memo No:JSPCB/HO/RNC/HWM-
5607804/2019/107
Date: 10/12/2019

[Kamlakant Pathak]
Section Head, Ranchi

Copy To:

**M/s Grasim Industries Ltd. Chemical Division Rehla, Palamau/ Regional Officer, Regional Office,
Ranchi for information and necessary action.**

KAMLA Digitally signed
KANT by KAMLA KANT
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PATHAK Date: 2019.12.10
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[Kamlakant Pathak]
Section Head, Ranchi

Type of wastes generated by the unit (information provided by the unit)

Sr. No.	Schedule	Name of Process	Name of Process Waste (Category No)	Quantity	Waste Type	Waste storage	Waste Disposal	Source of Generation of Waste	Physical Status
1	Schedule I	Industrial operations using mineral / synthetic oil as lubricant in hydraulic systems or other applications	Used / Spent oil	20 KL / Annum	Recyclable	MS Drums	Recovery and Reuse-Authorized	Transformer oil, lubricant oil from industrial equipment	Liquid
2	Schedule I	Purification and treatment of exhaust air, water & waste water from the Treatment Plants (CETP's)	Chemical sludge from waste water treatment	100 T / Annum	Land fillable	Pits	to Common TSDF of AWMPL	ETP	Semi solid
3	Schedule I.	Purification and treatment of exhaust air, water & waste water from the Treatment Plants (CETP's)	Spent ion exchange resin containing toxic metal	0.1 T / Annum	Land fillable	Plastic Drum and PVC bags	to Common TSDF of AWMPL	DM and Caustic Plant	Solid
4	Schedule I	Other	Other	1 T / Annum	Land fillable	HDPE and PVC bags	to Common TSDF of AWMPL	Insulation waste (Glass wool) from Tank, Reactor & Pipe Insulation	Solid
5	Schedule I	Other	Other	0.5 T / Annum	Land fillable	plastic bags	to Common TSDF of AWMPL / Co-processing / pre-processing	used membrane from membrane cell	Solid
6	Schedule I	Other	Other	5 T / Annum	Land fillable	stored in RRC bin	to Common TSDF of AWMPL / Co-processing / pre-processing	FRP waste from Membrane and HCL plant	Solid

Annexure-5

7	Schedule I	Other	Other	3 T / Annum	Land fillable	Bags	to Common TSDF of AWMPL / Co-processing / pre-processing	Contaminated Cotton rags or other cleaning materials (Category 33.2) as per HW Rules 2016 - Maintenance Work	Solid
8	Schedule I	Other	Other	6 T / Annum	Land fillable	Bags / Drum	to Common TSDF of AWMPL / Co-processing / pre-processing	Empty barrels / containers / liners / contaminated with hazardous chemicals/waste (Category 33.1) as per HW Rules 2016 - Packaging drums, bags	Solid
9	Schedule I	Other	Other	20 T / Annum	Land fillable	Bags	to Common TSDF of AWMPL / Co-processing / pre-processing	Aluminium dross ash and waste (category 11.5) as per HW Rules 2016 - from Aluminium chloride plant	Solid
10	Schedule I	Other	Other	3 T / Annum	Land fillable	bags	to Common TSDF of AWMPL / Co-processing / pre-processing	Spent carbon or filter medium (Category 36.2) as per HW Rules 2016- Filters used in process reactors / water treatment	Solid
11	Schedule I	Other	Other	1825 T / Annum	Land fillable	bags	to Common TSDF of AWMPL / Co-processing / pre-processing / Utilization	ATFD salt	Solid
12	Schedule I	Other	Other	10 T / Annum	Land fillable	Stored in waste disposal area	to Common TSDF of AWMPL / Co-processing / pre-processing	Discarded asbestos (Category 15.2) as per HW Rules - asbestos from roof and old structures	Solid
13	Schedule I	Other	Other	2 T / Annum	Land fillable	Drums / container	to Common TSDF of AWMPL / Co-processing / pre-processing	Oil and grease skimming (Category 35.4) as per HW Rule 2016	Semi solid



झारखण्ड JHARKHAND

D 178721

SERVICE AGREEMENT

This Service Agreement ('this Agreement') is made at Rehla, Palamu, Jharkhand on this 20th day of August 2018,

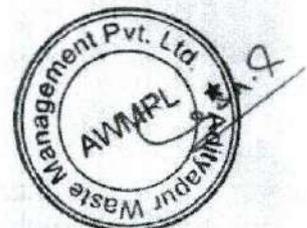
BY AND BETWEEN

M/s **Grasim Industries Ltd.** having its works office at Garhwa Road, Rehla, Palamau, Jharkhand-822124 and registered office at P.O. Birla Gram, Nagda, M.P.-456331 represented by its authorized signatory **Mr. Brijesh Kumar (A.V.P.-F&C)**, (hereinafter referred to as "GENERATOR" which expression shall unless repugnant to the subject or context include its administrators, successors and Permitted assigns) as Party No.1

AND

Adityapur Waste Management Private Limited (AWMPL) (A Subsidiary of RAMKY ENVIRO ENGINEERS LIMITED), a company registered under the Companies Act, 1956 and having its registered office at 13th Floor, Ramky Grandiose, Ramky Tower Complex, Gachibowli, Hyderabad-500032 having **TSDF Address** at Plot No. 43, Khata No. 529, Dugni Mouza; Dist - Saraikela-Kharswan; Jharkhand -833 220 (Hereinafter referred to as "Operator" which expression shall unless repugnant to the subject or context include its administrators, successors and Permitted assigns) as Party No.2

The GENERATOR and Operator hereinafter individually referred to as 'Party' and collectively as 'Parties'



In the event of a spill or incident, the carrier is to notify operator by calling the 24-hour, 7-day per week number provided on the manifest, as well as notifying appropriate Country, state, local, and other authorities having jurisdiction as required by applicable law.

12. Operators Warranties and Representations

Operator warrants, represents and agrees that:

- By accepting the GENERATOR Waste Operator acknowledges that it understands any hazards to persons, property and the environment in transporting, storing, treating, and/or disposing of the Waste;
- Waste stream sampling services, where required by Operator and/or requested by GENERATOR, must be performed by trained personnel familiar with current hazardous waste sampling methods or any other applicable regulations, and procedures.
- Operator certifies to Generator that it is familiar with and that its employees have been trained according to country regulations governing the handling and transporting of hazardous materials.
- Operator is licensed and permitted by law to perform all services described in this Agreement and shall perform all such services in a safe, efficient, and lawful manner, using operating, transportation, storage, treatment, and disposal practices that comply with all applicable laws and regulations. Throughout the life of this Agreement, Operator shall furnish, when requested, copies of all permits, licenses and approvals in effect and shall furnish to GENERATOR copies of new or renewed permits, licenses and approvals as and when requested to be produced ;
- GENERATOR certifies that it has prepared emergency plans that comply with all laws and that it is capable of implementing such plans on its site or during transportation of the Waste in the event of a release of any "hazardous substance," as defined by any applicable law or regulation.
- Operator will for the life of this Agreement, ensure that all of its employees performing work related to this Agreement are made aware of and are knowledgeable of the terms and conditions of this Agreement. Operator also shall duly notify and ensure that its employees and subcontractors are informed of any changes to this Agreement, such that they are able to perform their respective responsibilities in full compliance with this Agreement at all times.

13. Insurance



Operator shall not begin providing services under this Agreement until generator has been furnished with certificates of insurance from an established carrier evidencing that Operator have obtained the Environmental insurance, This insurance shall cover Operator's operations in all states in which services are to be performed.

Yearly updated certificates must be provided to the authorized signatory listed whenever demanded submission of.

14. Inspections and Verifications

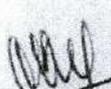
Generator may inspect and test, at its own expense, any equipment or facilities used by Operator in connection with its services. Generator may inspect Operator's handling, treatment, labeling, manifesting, transportation, storage, and disposal operations, and safety and health programs in connection with the performance of this Agreement. Any problems found by Generator must be corrected by Operator.

Operator shall keep accurate and complete records of:

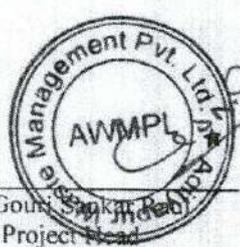
- ❖ Financial transactions related to this Agreement and
- ❖ All services related to performance of this Agreement, including all testing, sampling, storage, treatment, disposal, and transportation performed by Operator or. All such records will be subject to audit by Generator for a period of Three (3) years after the service has been completed, or longer where required by law. Generator may verify all services performed and amounts invoiced by periodic examination of Operator's premises and records.

Operator grants the generator reasonable access to Operator's facility (ies) and records for inspection and verification purposes.

For Grasim Industries Ltd.
(Chemical Division Rehla)


Name: Brijesh Kumar
Designation: A.V.P.-F&C


For ADITYAPUR WASTE MANAGEMENT
PVT. LTD


Name: : Gouri Shankar Jha
Designation : Project Lead


ANNEXURE II

PLEASE NOTE THE BELOW MENTIONED ADDRESS/SPOC ARE SUBJECT TO CHANGE AND GENERATOR SHALL GIVE PRIOR INFORMATION TO THE OPERATOR ON ANY CHANGES DONE HEREWITH.

<u>SI No</u>	<u>Unit</u>	<u>State</u>	<u>Address</u>	<u>TSDF Address</u>	<u>Distance km</u> <u>(two-way)</u>
1	Grasim Industries Ltd.	Jharkhand	Garhwa Road, Rehla Palamau, Jhrkhand-822124	Plot No. 43, Khata No. 529, Dugni Mouza; Dist - Saraikela-Kharswan; Jharkhand -833 220	750
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ANNEXURE III

DECLARATION

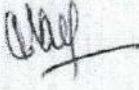
We M/s. Grasim Industries Limited, Chemical Division, Rehla., hereby declare that based on our industry production and our annual projections we shall be disposing the following Hazardous Waste types to Operator. (Additional sheets could be used for multiple waste types).

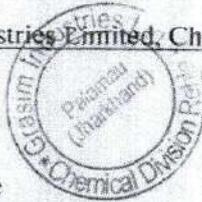
PLEASE NOTE ALL THESE QUANTITIES MENTIONED HERE ARE ONLY APPROXIMATE AND SHALL NOT GUARANTEE ANY MINIMUM QUANTITY EITHER FOR THE TYPE OF WASTE OR FOR THE GENERATED LOCATION.

- The Avg. Yearly generation of Hazardous Waste is expected as follows.
 1. Total. **1174 MT** per year of all type [ETP sludge (in future), FRP, PVC FPR piping, Aluminium dross ash, Glass wool, Contaminated Waste bags etc] of Hazardous WASTE
- Avg. monthly generation of Hazardous Waste is expected as follows.
 1. Total. **97.83 MT** per month of all type [ETP sludge (in future), FRP, PVC FPR piping, Aluminium dross ash, Glass wool, Contaminated Waste bags etc.] of Hazardous WASTE

-
- The Total accumulated/stored/buried in pits Hazardous Waste as on 20.08.2018 is approximately as follows:
 1. Total. **2000 MT** of all type (ETP sludge, FRP, PVC FPR piping, Aluminium dross ash, Glass wool, Contaminated Waste bags etc.) of Hazardous WASTE

For and on behalf of M/s. Grasim Industries Limited, Chemical Division, Rehla.

Authorized Signatory 
Name: Brijesh Kumar
Designation: AVP, Accounts & Finance



Witness: 
Name: K.N. Mishra
Designation: AGM
Grasim Industries Limited,
Chemical, Division, Rehla
Jharkhand-822124

- h. % Moisture content (Loss on ignition at 105°C)
- i. % Organic Content (Loss on ignition at 550°C)
- j. Paint Filter Liquid Test (PFLT)
- k. PH
- l. Sulphur (elemental)
- m. 24 hour Leaching Procedure
- n. Reactive Cyanide (PPM)
- o. Total Cyanide
- p. Reactive Sulphide (ppm)
- q. Sulphur elemental
- r. Concentration of individual inorganics (Metals), both total and leachable, specific parameters to be determined based on source of waste
- s. Oil and Grease
- t. Extractable Organics
- u. % Carbon, % Nitrogen, % Sulphur, % Hydrogen
- v. Concentration of Individual Organics
- w. TCLP for identified parameters.

Note : Applicable parameters will be changed time to time based on the regulations laid down by CPCB / JSPCB and other bodies.

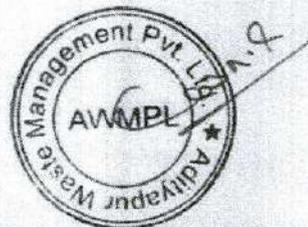
8. Parameters to be Analyzed for Finger Print Analysis

- a. Physical State of the WASTE
- b. Identification of different phases of WASTE
- c. Colour and Texture
- d. Specific Gravity
- e. Viscosity
- f. Flash Point
- g. % Moisture content (Loss on ignition at 105°C)
- h. % Organic Content (Loss on ignition at 550°C)
- i. Paint Filter Liquid Test (PFLT)
- j. Liquid Release test
- k. pH
- l. Reactive Cyanide (ppm)
- m. Reactive Sulphide (ppm)

Note : Applicable parameters will be changed time to time based on the regulations laid down by CPCB / JSPCB and other bodies.

9. Terms & Conditions:

- a. This membership is valid as long as GENERATOR is in good standing with the TSDF and has continued valid authorization from SPCB.



- b. This CHW-TSDF shall accept only hazardous wastes as classified in HW Rules for disposal and shall not accept radioactive wastes, Municipal wastes, and Bio-Medical waste.
- c. Acceptance of waste is dependent on the fulfillment of regulatory and statutory guidelines for operations of TSDF issued from time to time.
- d. Pathway of disposal of wastes and its price shall be decided based on guidelines issued from time to time by regulatory authorities and shall be at the discretion of TSDF.
- e. From the date of signing of agreement GENERATOR has to submit its Waste's sample for comprehensive analysis within 15 days. The analysis report generated by Operator will form the basis of disposal pathway along with disposal charges (as Annexure I) which will be annexed after analysis of the sample and will form the part of agreement.

10. Treatments and Disposal of Waste/Containers

Operator shall transport, store, treat and/or dispose of the Waste, consistent with Appendix A, and as required by applicable law. Operator shall, within sixty (60) days of receiving any shipment from generator or its Authorized Purchases, treat or dispose of the waste containers at disposal locations approved by the GENERATOR, and in compliance with country, state and local regulations.

Operator shall not dispose of any material that derives from any Waste transported, stored, and/or treated by Operator, except as prescribed under law and in Appendix A, nor shall Operator send any Waste to another disposer except upon GENERATOR's prior written approval. GENERATOR must approve of any storage, treatment or disposal company in the disposition of Waste.

Operator to provide the following to the GENERATOR Manager of Corporate Environmental Affairs (CEA):

Quantity of GENERATOR waste processed at each Operator location on an annual basis

This information for the previous year will be provided only on demand with a prior notice to that effect.

11. Packaging and Labeling

The Operator shall comply with all applicable, country, state laws for packaging and labeling of hazardous waste (currently the "The Hazardous Wastes (Management and Handling) Rules, 1989" and "The Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016").



Note: Since these containers will be replaced after three years, above container maintenance charges will be valid for three years only

b) Handling / Unloading Charges:

Additional handling / unloading charges will be applicable.

Handling / Unloading Charges – Rs. 150/- per MT

4. Minimum yearly service charges:

The GENERATOR has to pay a minimum service charge of Rs. 36,000/- per year (excluding applicable GST and Transportation). This amount shall be adjusted against User Charges invoices in a financial period of one year. It means if the user charges is more than the service charges then the Generator have to pay the extra charges occurred over the service charges or if the user charges is less than service charges then the Generator has to pay the minimum service charge to the Operator.

5. Lab Analysis Charges:

The lab analysis charges for Comprehensive analysis per sample will be Rs.17,000/- excluding GST and handling charges, which have to be paid by the GENERATOR.

But as mutually agreed the charges for comprehensive analysis per sample is Rs. 12,000/- excluding applicable GST, which have to be paid by Generator.

6. Taxes / Levies

All Government / Municipal / Panchayat Taxes / Duties/ Levies/ Octroi / Tolls etc, as applicable from time to time, will be payable by GENERATOR. At present AWMPL services are coming under Service Act.

7. Parameters to be analyzed for comprehensive analysis of waste:

- a. Physical State: (Liquid/ Slurry/ Sludge/ Semi-solid/Solid: Inorganic, Organic, Metallic)
- b. Different Phases: (in cases of Solid / Slurries / Sludge) contained in aqueous liquids/solutions
- c. Colour and Texture
- d. Specific Gravity
- e. Viscosity
- f. Calorific Value
- g. Flash Point



WHEREAS;

- A. Operator is engaged in the business of Waste Management and presently operating as 'Integrated Common Hazardous Waste Treatment Storage Disposal Facility' (ICHWTSDF) at Plot No. 43, Khata No. 529, Dugni Mouza; Dist – Saraikela-Kharswan; Jharkhand -833220, as per the guidelines under The Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 made under the provisions of The Environmental Protection Act 1986, as amended from time to time and which hold valid authorization bearing no. JSPCB/HO/RNC/HWM- 1510226/2017/77 issued on 23/10/2017 from Jharkhand state pollution control board (JSPCB).
- B. The GENERATOR being desirous of availing the services of collection, transport, treatment, storage and disposal / recycle of hazardous and other wastes (hereinafter referred to as "Waste") generated at their premises approached Operator and the same has been accepted by Operator on the terms and conditions set out in this Agreement read with the provisions of The Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, as amended from time to time and supervision of SPCB.

NOW THEREFORE in consideration of the above-mentioned premises and the mutual promises contained herein, the GENERATOR and Operator have agreed to enter into this Agreement under the terms and conditions set forth hereinafter.

1. DEFINITIONS AND INTERPRETATION

1.1 **Definitions:** In this Agreement, including in the recitals hereof, the following words, expressions and abbreviations shall have the following meanings, unless the context otherwise requires:

- a. "Agreement" means this agreement including all attachments, annexure or schedules annexed thereto.
- b. "Hazardous Rules" means Hazardous and Other Wastes (Management, Handling & Trans-boundary Movement) Rules, 2016 as amended from time to time.
- c. "SPCB" means State Pollution Control Board.
- d. "TSDF" means the Integrated Common Hazardous Waste Treatment Storage Disposal Facilities operated by Operator.
- e. "Waste" means hazardous and non-hazardous waste generated in the premises of the GENERATOR.

1.2 **Interpretation:** In this Agreement, unless the subject or context otherwise requires:



- a. Reference to the singular number shall include references to the plural number and vice-versa;
 - b. References to a "person" shall include references to natural persons, partnership firms, companies, bodies corporate and associations, whether incorporated or not or any other organization or entity including any governmental or political sub-division, ministry, department or agency thereof;
 - c. References to recitals, clauses and schedules / annexure are to recitals, clauses and schedules to this agreement;
 - d. Any reference herein to a statutory provision shall include such provision, as is in force for the time being and as from time to time, amended or re-enacted in so far as such amendment or re-enactment is capable of applying to any transactions covered by this agreement.
 - e. Clause headings used herein are only for ease of reference and shall not affect the interpretation of this agreement.
- 1.3 The Annexure shall form an integral part of this Agreement.
- 1.4 All capitalized terms used in this agreement which have not been specifically defined in this Agreement shall, unless inconsistent with the context have the meanings assigned to them under the Authorizations / Concession Agreement.

2. SCOPE OF SERVICES

- 2.1 The scope of services to be provided by Operator under this Agreement shall be collection, transportation, treatment, storage and disposal of Waste generated at the premises of the GENERATOR in compliance with all legal provisions applicable to such services including but not limited to The Environmental Protection Act and the rules made there under, viz. The Hazardous and other wastes (Management, Handling and transboundary Movement) Rules, 2016 (hereinafter the "Rules") as amended from time to time.
- 2.2 Operator shall offer services contemplated in this agreement to the GENERATORs as stated in Annexure 2 through the TSDF operated by Operator and located at Plot No. 43; Khata No. 529; Dugni Mouza; Dist. Saraikela – Kharswan; Jharkhand -833 220.
- 2.3 Operator shall dispose the Waste as per the mandate of the SPCB read with the provisions of Hazardous Waste Rules.



- 2.4 Operator also agrees to accept even non-hazardous wastes from the GENERATOR provided that the JSPCB issues 'no objection certificate'.
- 2.5 Operator shall provide "Form 10" to the Generator, along with invoice as per clause 4.4 of the Agreement.

3 GENERAL CONDITIONS

- 3.1 GENERATOR shall first, become registered member of Operator by paying a membership fee of Rs. 6,00,000/- (Rupees Six Lacs only) in Between FY 18-19 and FY 19-20 The membership process is onetime, non-transferable and the membership fee is non-refundable.
- 3.2 The GENERATOR shall provide to Operator, a representative sample of the Waste, 1 to 2 kg, and inform the entire process details which leads to generation of such Waste, for the purpose of determining the Waste characteristics and to decide parameters for comprehensive analysis, as well as its final pathway of treatment, storage and disposal of the Waste.
- 3.3 Operator shall carry on the comprehensive analysis of the Waste in its laboratory at the cost of the GENERATOR or GENERATOR can also conduct the comprehensive analysis, as per the parameters identified under Annexure 1 item No.7 in a **National Accreditation Board for Testing and Calibration Laboratories (NABL)** and **Ministry of Environment, Forest and Climate Change (MOEFCC)** accredited laboratory. The comprehensive analysis report shall be used by Operator to determine the disposal pathway based on the waste characteristics & as per Ministry of Environment Forest & Climate Change (MoEFCC), CPCB (Central Pollution Control Board) and the concerned SPCB rules and guidelines issued from time to time. Disposal pathway shall be mutually agreed between the GENERATOR & Operator and shall form basis for disposal and user charges.
- 3.4 Operator within 30 days on receipt of information from the GENERATOR shall plan and schedule for collection of the Waste from the GENERATOR Premises and the safety during transportation shall be the collective responsibility of the GENERATOR and the transporter.
- 3.5 The GENERATOR shall provide the details of Waste to Operator as mentioned below:
- Complete details of the Waste and its characteristics regarding presence of explosive/ ignitable/ corrosive/ toxic/ odorous compounds in the manifest provided to the transporter for safe transportation and disposal.



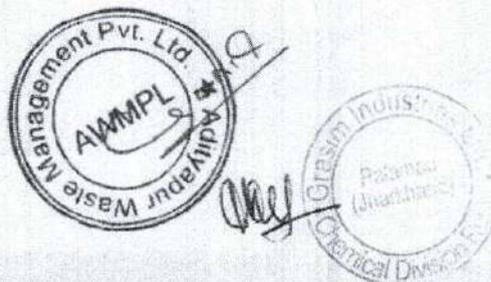
- ii) Safety information for Hazardous waste containers in 'Form 8', 'Waste transportation manifest' in 'Form 10' and TREM Card in 'Form 9' for every Waste type in each consignment as per Hazardous Waste Rules.
- 3.6 Operator shall analyse the Waste received through finger print analysis as per the parameters identified under Annexure I item No. 8 as prescribed by the concerned SPCB.
- 3.7 In the event there are any differences in the analysis results of comprehensive analysis and finger print analysis, the GENERATOR may either accept the results of Operator or send their samples to a mutually agreed third party analysis at their own cost. Any discrepancy in relation thereto shall be informed to the SPCB.
- 3.8 The GENERATOR shall provide a fresh comprehensive analysis report when there is a change in the waste characteristics, manufacturing processes, changes in product mix or upon completion of two (2) years whichever is earlier.
- 3.9 In the event of any false information or withholding information by the GENERATOR including but not limited to the nature of information more specifically detailed in clause No.3.13, all the liabilities, whether directly or indirectly arising there from, during transportation, handling, treatment & disposal shall be the responsibility of the GENERATOR.
- 3.10 The GENERATOR shall provide an advance declaration every year in the month of April regarding the quantity of waste assuring to send to Operator till March 31 of the succeeding year, in the format provided under Annexure III, Declaration.
- 3.11 The GENERATOR shall also declare Waste quantities on an annual and/or monthly basis as per Hazardous and Other Wastes (Management, Handling & Trans boundary Movement) Rules, 2016 in the format provided under Annexure III.
- 3.12 Operator agrees to provide its containers available at its TSDF to the GENERATOR provided the GENERATOR pays the container maintenance charges to Operator as per Annexure I item No.4.
- 3.13 The Waste supplied by the GENERATOR shall not contain any kind of nuclear and/or radio-active and/or any other prohibited material.
- 3.14 Operator shall also supply specially designed containers to help segregate the Waste and arrange the transportation of such containers from the GENERATOR premises.
- 3.15 As agreed, there shall be no restriction on minimum quantity per transaction, to be picked-up from Generator Site.



- 3.16 The Operator shall indemnify the Generator for any loss on account of not holding a valid authorization for service offered and agreed to by them and it shall be sole responsibility of Operator to comply with all the applicable statutes with respect of such service.
- 3.17 The Operator shall insure safe handling and transportation of the Waste from the premises of the GENERATOR and take all safety measures. In case of any accident, loss or damage of any kind to any party including Operator during handling, transportation and disposal, the GENERATOR will not be responsible for any criminal, civil, financial or damage action arisen out of such accident, loss or damage of any kind to any party including Operator during handling, transportation and disposal.
- 3.18 The event of any false information or withholding information by the GENERATOR wilfully including but not limited to the nature of information more specifically detailed in clause No. 3.13, suppression of which would be result into any loss or damage solely on account of non-availability of such information, all the concerned liabilities, whether directly or indirectly arising there from, during transportation, Handling, Treatment & Disposal shall be the responsibility of the GENERATOR.

4 USER CHARGES & TERMS OF PAYMENT

- 4.1 The GENERATOR shall pay monthly user charges to Operator for its services as per the rates mentioned under Annexure I, which shall be based upon the Declaration given by the GENERATOR as provided under Annexure III.
- 4.2 All taxes including Central GST and State GST etc. shall be paid as extra over and above our quoted rates at the rate applicable, if any, at the time of billing. Tax Laws are subject to amendments from time to time and accordingly any tax will be applicable, will be charged as extra. GST is like any other indirect tax to be collected by the Operator from the customers and the same is remitted to the government account.
- 4.3 5% escrow deposit would be charged over and above the disposal charges for the wastes disposed into land fill either directly or after treatment. The amount applicable for the escrow deposit will vary from time to time based on the notification from the concerned authority.
- 4.4 The user charges are subject to annual revision on the basis of Concession / Authorisation Agreement and including but not limited to every event of escalation of fuel costs, power tariff, change in disposal technologies and/or method, wage hike and others.



- 4.5 Operator shall send the monthly user charges invoice to the GENERATOR on or before 5th of every succeeding month and the bill amount shall be payable by the GENERATOR on or before 30th of the same month.
- 4.6 Any objection and/or clarification on the waste disposal invoices and monthly bills submitted by Operator to GENERATOR shall be communicated to the Operator within 7 working days from the date of receipt of the invoices. In case of non-receipt of any clarification or objection it shall be deemed that the invoices are acceptable and shall fall due for payment as per clause 4.5 of this Agreement.
- 4.7 In case of delayed payments the GENERATOR shall be liable to pay interest at the rate of 1% per month on the outstanding amount during the default period. In the event of any bill amount along with interest is due for more than three (3) months, Operator reserves the right to refuse to extend its services to the GENERATOR and even to terminate this Agreement with immediate effect.
- 4.8 The Operator will communicate the Comprehensive Analysis Report to the GENERATOR and on the basis of which the disposal cost / estimate will be finalised at the prevailing rate and a Work Order will be issued by the GENERATOR against the same prior to collection of waste from Generator's Premises.
- 4.9 In the event of any changes in the prescribed user charges by the authority because of any unforeseen circumstances, the same will be informed to and if agreed will be applicable to the Generator as per the Concession agreement.

5 TERM OF AGREEMENT

This Agreement shall be valid for a period of 2 year(s) effective from 20th August 2018 subject to earlier termination by either party in accordance with this Agreement.

6 FORCE MAJEURE

Notwithstanding anything else contained herein, neither Party hereto shall be liable for damages or to have this agreement terminated for any delay or default in the performance of such Party hereunder if such delay or default in performance derives from conditions beyond the reasonable control of such Party, including but not limited to, acts of god, strikes, fires, floods, extreme drought, shortage of supply, riots, work stoppages, embargoes, governmental actions or damage to the plant or facility or any cause unavoidable or beyond the control of either party including continuing domestic or international problems such as wars or insurrections. The Parties shall have right to terminate this Agreement upon giving a prior written notice to the other Party if the Force Majeure event continues for more than sixty (60) days.



7. INDEMNITY:

- (a) **The GENERATOR**, its directors, officers, employees, agent and contractors, including their employees, shall not be liable to indemnify for any Losses incurred by Operator, its director, officers, employees, agents, servants or third parties arising from this Agreement unless such losses have arisen solely as a result of the wilful misconduct and/or gross negligence of the GENERATOR (or any of its directors, officers, or employees) in performing its/their obligations under this Agreement whether during collection or transportation or treatment or storage or disposal, as a result of:

1. The Waste supplied by or collected from the Generator in case of any mismatch of waste from trem card or finger prints; and any non-disclosure or wrong disclosure of any information as to the characteristic of waste, or

2. Any civil or criminal proceedings or liability under any law for any unlawful dumping of untreated wastes by the waste Generator either at the project site of Operator or anywhere else.

- (b) **The Operator**, its directors, officers, employees, agent and contractors, including their employees, shall not be liable to indemnify for any Losses incurred by the GENERATOR, its director, officers, employees, agents, servants or third parties arising from this Agreement unless such losses have arisen solely as a result of the wilful misconduct and/or gross negligence of the **Operator** (or any of its directors, officers, or employees) in performing its/their obligations under this Agreement.

8. EVENTS OF DEFAULT

The following shall constitute GENERATOR's events of default:

- a) If the GENERATOR fails / refuses to pay its bills / dues for the user charges payable under this Agreement within a period of 90 days from the receipt of the invoice.
- b) If the GENERATOR fails / refuses to pay within the time stipulated the advance amounts and deposits etc. called upon to do so by Operator.
- c) If the Waste supplied by the GENERATOR contains any radioactive or prohibited material.
- d) If the GENERATOR commits gross violation of the terms of this agreement.

9. TERMINATION

- 9.1 The Operator shall have the right to terminate this Agreement in case of GENERATOR's failure to rectify any of the events of default, listed in clause 8 above.



with ninety (90) days' notice from the date of receipt of written notice for rectification from the Operator and to the extent such events of default result in material breach of this Agreement. The GENERATOR may terminate this Agreement in case of Operator's breach of this Agreement and if such breach remains uncured for a period of thirty days from the date of termination notice issued by the GENERATOR.

- 9.2 Either party may terminate this Agreement, if the other party violates any term of this agreement or becomes insolvent or files a voluntary petition in bankruptcy ("Cause"), to the extent permitted by law. Such termination will be effective at the end of a ninety (90) day written notice period.

10 ENTIRE AGREEMENT

This Agreement shall be deemed to represent the entire Agreement between the parties hereto regarding the subject matter hereof and shall supersede, cancel and replace any and all prior agreements or arrangements, if any, in this behalf, by and between the Parties hereto.

11 RELATIONSHIP OF THE PARTIES

Nothing contained herein shall be deemed to constitute a partnership, joint venture or agency by and between the Parties hereto.

12 VARIATIONS

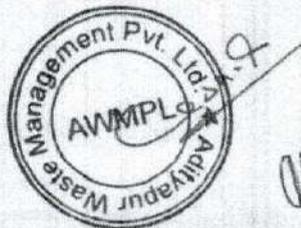
This Agreement may be modified or amended only by writing, duly executed by or on behalf of the Parties hereto.

13 INVALIDITY

In the event that any provisions of this Agreement is held to be illegal, invalid or unenforceable under any present or future laws of the Republic of India such provisions shall be deemed terminable and the remaining parts & provisions of this Agreement shall remain in full force & effect.

14 NOTICES

- 14.1 Any notice, request, demand or other communication given or made under or in connection with the matters contemplated by this Agreement shall be in writing and shall be delivered personally or sent by registered post acknowledgement due or by facsimile or by courier:



In case of GENERATOR

Attn:

Head Finance & Commerce,
Grasim Industries Ltd. (Chemical Davison Rehla)
P.O.- Rehla, Station- Garhwa Road,
Distt.- Palamau
Jharkhand- 822124

In case of Operator to:

Attn: Project Head, Adityapur Waste Management Pvt. Ltd.

Plot No. 43; Khata No. 529; Dugni Mouza; Dist. Saraikela – Kharswan; Jharkhand -833 210.

and shall be deemed to have been duly given or made as follows:-

- (a) If personally delivered, upon delivery at the address of the relevant Party;
- (b) If sent by registered post-acknowledgement due seven (7) days after the posting;
- (c) If sent by facsimile upon receipt of confirmation by sender, from the receiver, that the facsimile has been received;
- (d) If sent by courier four (4) days after the date of dispatch.

14.2 A Party may notify the other Party of a change to its name, relevant addressee or address number for the purposes of Clause 14.1 as provided herein.

15 DISPUTE RESOLUTION

Any dispute arising on any clause or clauses of this Agreement and the contents of the Annexure, hereto between the GENERATOR and Operator shall be referred to Arbitration in accordance with the provisions of the Arbitration and Conciliation Act, 1996. The arbitration proceedings shall be conducted in English and the seat of arbitration shall be at Ranchi. The arbitral award shall be final and binding upon both the Parties. No Party shall make the contents of the award public unless upon the written approval of the other Party. The arbitration shall be conducted by a sole arbitrator to be appointed by mutual written consent of both parties.

16 SURVIVAL

The terms which by nature are meant to survive the term of this Agreement shall continue to survive with respect to events that arose before expiry/termination of this Agreement.



Appendix A

Additional Waste Handling/Shipment/Treatment - Operational Requirements

In accordance with the regulatory requirements, Operator certifies with regard to all treatment/disposal facilities listed in their proposal that Operator and its subcontractors:

- ❖ Have the necessary permits to perform all services described in the proposal to GENERATOR and shall perform such services in a safe, efficient, and lawful manner using industry-accepted operating, transporting, storage, treatment, disposal, and reclaiming/recycling practices.
- ❖ Comply with the laws applicable to the waste intended to be placed therein, including without limitation, all sampling, monitoring, record keeping, spill containment, closure and post closure, insurance, and financial security requirements.
- ❖ Will notify GENERATOR promptly, in writing, of any administrative order, lawsuit, or other administrative action by any governmental entity or private party, or the entry into any consent decree or settlement with a governmental entity or private party in connection with any environmental matters at facilities used for GENERATOR's waste. Said notification shall include any action to be taken by a governmental entity or private party alleging a violation of environmental law.
- ❖ Will advise GENERATOR of any civil or criminal penalty citation and the amount of any said penalties imposed for the misuse, mistreatment, or improper disposal of any waste materials.
- ❖ Will advise GENERATOR of any business or financial conditions which may impact the ability to perform services.
- ❖ Will allow GENERATOR or its agent to inspect and test, at their own expense, any equipment or facilities used by Operator with the prior approval of the operator in connection with its services. GENERATOR or its agent may also inspect Operator's handling, treatment, labelling, manifesting, transportation, reclamation, storage and disposal operations, and safety and health programs in connection with any resultant contract.
- ❖ Will have the capacity to accept the expected quantities of wastes.
- ❖ Assure that the prescribed disposal method as agreed upon is followed for each waste stream till the waste characteristics remain the same as per comprehensive analysis.



17 GOVERNING LAW & JURISDICTION

This Agreement shall be governed in accordance with the laws of India. Operator and GENERATOR mutually agree that the courts of competent jurisdiction at Saraikela Kharswan and Palamau shall have the exclusive jurisdiction over this Agreement.

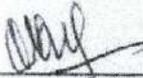
18. INTELLECTUAL PROPERTY

This Agreement does not grant either party the right to use the other party's or their Affiliates' trademarks, trade names or service marks or any other intellectual property rights.

19. LIMITATION OF LIABILITY

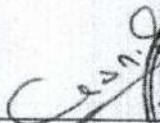
In no event will either party be liable to the other for any lost revenues, lost profits, incidental, indirect, consequential, special or punitive damages. The GENERATOR's aggregate liability under this Agreement shall be limited to the paid value of services that is the subject of claim.

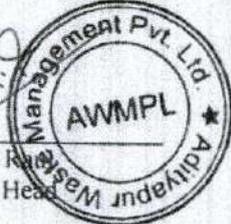
For Grasim Industries Ltd.
(Chemical Division Rehla)


Name: Brijesh Kumar
Designation: A.V.P. (F&C)

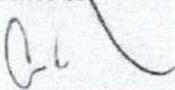


For Adityapur Waste Management Pvt. Ltd.,

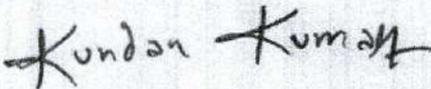

Name: Gouri Sankar
Designation: Project Head



In the Presence of


Name: K. R. Mishra
Designation: AAM

In the Presence of


Name: Kundan Kumar
Designation: Asst. Manager

ANNEXURE I

Based on the sample provided, disposal charges for

- A. ETP Sludge – Rs. 2, 819/- Per MT
- B. Contaminated Cotton Waste- Rs. 18, 547/- Per MT
- C. Spent Carbon & Resins - Rs. 18, 547/- Per MT
- D. Waste Membrane - Rs. 2, 819/- Per MT
- E. Waste Dross Residues from $AlCl_3$ Plant- Rs. 2, 819/- Per MT
- F. FRP Waste - Rs. 2, 819/- Per MT
- G. Glass Wool – Rs. 13, 519/- Per MT
- H. Empty Paint Drums / Contaminated Liners & Containers – Rs. 18, 547/- Per MT
- I. Discarded Asbestos Sheet – Rs. 4, 011/- Per MT
- J. Oil & Grease Skimming Residues - Rs. 18, 547/- Per MT
- K. E-waste- rates have to be decided mutually.

Note : Additional Transportation charges applicable as per clause no. 2 of Annexure -I and Taxes as per clause no. 6 of Annexure – 1.

The bases for arriving disposal charges for other wastes which are not mentioned above are given below in clause no. 1 of Annexure -I.

1. User Charges

The GENERATOR shall pay the following applicable User Charges based on the Waste Types.

a) Direct Landfill: per MT

Direct disposal into Landfill : Rs. 2391/- per MT

The user Fee will be considered for increment at the rate of 7% per annum compounded in line with concession agreement with Adityapur Auto Cluster. However actual revised user fees would be applicable from starting of financial year for every two years period from 2015 as per concession agreement.

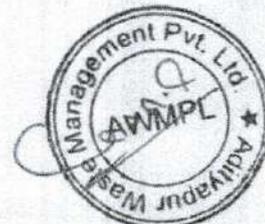
The user charges are subject to revision based on the conditions prescribed in clause no. 4.4 & 4.9 as per the agreement.

b) Stabilization Charges: per MT

Cost of Direct Land filling (1+Bulking Factor) + Cost of Stabilization Reagents + Rs.350/- per MT for re-handling expenses.

c) Incineration Charges: 18,547/-per MT (also depends on Material Density)

The user Fee will be considered for increment at the rate of 7% per annum compounded in line with concession agreement with Adityapur Auto Cluster. However actual revised user fees would be applicable from starting of financial year for every two years period from 2015 as per concession agreement.



The user charges are subject to revision based on the conditions prescribed in clause no. 4.4 & 4.9 and based on the density of the material and other pollutants.

***Waste should be packed by Generators in approx. 20Kg. leak-proof Bags.**

2. Transportation Charges: [Optional, applicable when Operator Services are utilized]

a) Waste Transport Charges:

Transportation charges will be applicable **Rs. 6.00** per Ton per KM or **Rs. 1800** per consignment whichever is higher.

The criteria for weight (MT) consideration will be minimum 90% of the container loading capacity. In case the quantity of waste received in the consignment is more than 90 % of the container capacity, actual quantity will be considered.

The distance will be calculated for both-ways.

b) Diesel Escalation Clause

The diesel escalation clause is applicable as below:

Base price / Old diesel price * Current diesel price = Transportation Cost.

c) Truck Detention Charges

Maximum time of 12 hours (8:00 AM – 6:00 PM) hours is allowed for the truck to be detained at the GENERATOR premises from the time of reporting to their Security Gate. In the event this period is exceeded then **Rs. 500/-** per hour shall be charged as detention charges unless it is mutually agreed and accepted between both parties in writing.

d) Truck No- show Charges

In case after planning and scheduling of a truck for the GENERATOR, the GENERATOR decides not to send waste and wishes to send the empty truck to Operator, the GENERATOR shall pay the transportation charges at actual to and fro distance as per the agreed transportation charge only.

3. Container Maintenance Charges: [Optional, applicable when Operator Services are utilized]

The GENERATOR has to pay the following charges as mentioned below towards the services of the Container, if opted for by the GENERATOR.

a) Container Maintenance charges: The Container deposits are: -

- 10.0 MT Hook Loaders **Rs.3,75,000/-** per Container





No.23-206/2014-HSMD
Government of India
Ministry of Environment, Forest & Climate Change
HSM Division

Indira Paryavaran Bhavan,
Jor Bagh Road, Aliganj
New Delhi-110003

Dated: 02-05-2016

Office Memorandum

Sub: Representations on declaring brine sludge from Membrane Cell Caustic Soda Plants as non-hazardous waste- Request for review of new Rules

This is with reference to your communication no. AMA/MoEF/BS/841 dated 18th April, 2016 regarding the above cited Subject.

2. In this regard It is to state that the issue of declaring brine sludge from Membrane Cell Caustic Soda Plants as non-hazardous waste has been addressed by amending the Schedule I in Hazardous and other waste (Management and Transboundary Movement) Rules, 2016 wherein w.r.t "Production of caustic soda and chlorine" listed at SL. No. 16 **under process** at 16.1 only **"Mercury bearing sludge generated from mercury cell process"** is now listed as hazardous. **Thus indicating that "Non-mercury bearing sludge from Membrane cell" caustic soda plants as non-hazardous.**

This issues with the approval of Competent Authority.

(Dr. Shruti Rai Bhardwaj)
Joint Director/ Scientist 'D'
Telefax: 24695397
Email: shruti.rai@nic.in

To,

Shri K Srinivasan
Secretary General
AMAI
3rd Floor, Pankaj Chambers,
Preet Vihar Commercial Complex
Vikas Marg
Delhi-110092



12124 28/11/19 100x1 = 100 Dalmia DSP Ltd Y 425187

बिहार BIHAR
 दोषाचार (संशोधन)
 रोहतास (संशोधन)

अजय कुमार
 नया रा. रोहतास
 सा. नं. 33/83-84
 सासाराम (रोहतास)

AGREEMENT FOR EVACUATION (TRANSPORTATION/ HANDLING) OF FLY ASH FROM GRASIM INDUSTRIES LTD, CHEMICAL DIVISION REHLA AND DALMIA DSP LTD., BANJARI, ROHTAS (BIHAR)

This Agreement for evacuation, transportation and supply of Fly Ash is made on this 28th day of November, 2019.

BETWEEN

Grasim Industries Ltd, Chemical Division Rehla, A Unit of Grasim Industries Ltd. (hereinafter referred to as GILCD), a Company incorporated under Companies Act, 1956 and having its factory at Ghanshyam Kunj, Garhwa Road, P.O. Rehla- 822 124, Dist. Palamau in the State of Jharkhand hereinafter called GILCD (which expression shall, unless repugnant to this context or meaning thereof, include its successors and assigns) of the ONE PART

AND

Dalmia DSP Ltd. hereinafter referred to as DDL, having its factory at Banjari, District Rohtas (Bihar) (which expression shall, unless repugnant to this context or meaning thereof, include its successors and assigns) of the OTHER PART.

Sanjeev Kumar

WSD

WHEREAS GILCD is operating its 2x30 MW Coal Based Captive Thermal Power Plant at their factory at Rehla and generating fly ash as an integral part of the operation of Power Plant.

WHEREAS DDL is operating their Cement Plant at Banjari, District Rohtas (Bihar) and utilizing fly ash as raw materials.

WHEREAS the both parties had detailed discussion regarding evacuation and transportation of fly ash from Ash Silo of 2 x 30MW Coal Based Thermal Power Plant of GILCD, Rehla and arrived at mutual agreement as mentioned hereunder.

NOW THEREFORE in consideration of the above it is hereby agreed by and between the two parties:

- I. That, DDL has agreed for lifting and transportation of fly ash 100 M.T. per day from GILCD, Rehla on continuously so as to empty out Ash Silo at GILCD, Rehla on daily basis. GILCD, Rehla will provide 24 hours loading facility at their point of discharge of Fly Ash for 100 M.T. evacuation.
- II. That GILCD, Rehla will facilitate to the transport vehicles deployed by DDL for lifting and transportation of Fly Ash to their works.
- III. That, GILCD will make necessary mechanical arrangement at the bottom of ash silo for filling of fly ash into transport vehicles provided by DDL.
- IV. That, DDL will make necessary arrangement to ensure 100 M.T. evacuation and transportation of available fly ash in Close containers.
- V. That, in case of any restriction on movement of transport vehicles on account of bandh, elections, strike and any other unforeseen circumstances of whatsoever nature, Singh Enterprises will ensure 100% evacuation of available fly ash of power plant of GILCD, Rehla on continuous basis and ash will be transported to the designated place earmarked by GILCD, Rehla on

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Sanjay Kumar



temporary basis with a clear understanding that once the position is normalized, DDL will lift Fly Ash from such earmarked place to their works. Under such situations of continuous unforeseen circumstances prevailing for some more period and the area earmarked for temporary dumping of Fly Ash is also filled up with Ash, DDL will be permitted by GILCD, Rehla for bagging of Fly Ash to the extent necessary and such bagged Fly Ash will be transported by DDL either by Road or Rail soon after the situation normalizes.

- VI. That in case DDL is unable to evacuate available fly ash on day-to-day basis, GILCD, Rehla will have a right to make its own arrangement for evacuation and transportation of Fly Ash remaining in the silo and the cost so incurred on account of carrying out this job, will be recovered from DDL. This process of recovery will continue till the adequate arrangement is made by DDL for evacuation of Ash from the Silo on regular basis.
- VII. That in case of statutory Annual Shutdown/ unforeseen stoppages of Power Plant, GILCD Rehla will not be liable to any losses/ adverse effect of whatsoever of the nature that the DDL may incur due to non -availability of Fly Ash. However in case of statutory Annual Shutdown of GILCD, Rehla Power Plant, GILCD, Rehla will inform DDL Plant well in advance for the period of their shutdown planning.
- VIII. DDL Plant will ensure safe handling of ash disposal equipments installed in premises of GILCD, Rehla and filling of Ash from Silo to the Transport vehicles as well as transportation of Fly Ash to their works. In case of any damage to the equipments and property of GILCD during such transportation/ handling activities and use, DDL Plant will compensate to GILCD suitably to make good the losses suffered on account of damages to the property of GILCD, Rehla during the course of evacuation of Silo, bagging, internal transportation and such other activities etc.

W. S. K.



- IX. That DDL Plant will ensure compliance of all the statutory environmental aspects involved in transportation of Fly Ash from GILCD, Rehla their factory at Banjari, Rohtas.
- X. That, DDL Plant will appoint a coordinator at the site of GILCD, Rehla so as to ensure smooth handling and continuous evacuation of Fly Ash.
- XI. That, DDL Plant will submit an amount of Rs. 3,00,000/- (Rupees Three Lacs thousand only) in form of Cash/ Bank Guarantee as "interest free earnest money deposit" which will be forfeited in case of any deviations from any of terms as agreed by DDL Plant under this agreement without any prior reference to the party.
- XII. That, DDL Plant will pay to GILCD, Rehla the price of Fly Ash @ Rs.50/- MT plus taxes, if any for the actual quantity of fly ash lifted from silo of GILCD The GILCD will raise a tax invoice for the qty. lifted by DDL Plant.
- XIII. That, DDL Plant shall make payment on or before 20th of the next month from supply month otherwise DDL Plant shall pay interest @ 1.5% per month for delayed period on pro-rata basis after 20th .
- XIV. That this agreement is valid for a period of 01(One) years commencing from 01.12.2019 to 30.11.2020 .
- XV. GILCD, Rehla will have the right to terminate this agreement by giving 3 (three) months **notice to DDL Plant in** the event of failure of lifting the Ash on continuous basis and DDL Plant will be liable to pay all the dues, charge and other amount as outstanding on the date of termination of the contract.
- XVI. All disputes, differences and/or claims arising out of these presents as to their construction, meaning or fact thereof or as to the rights and liabilities of the parties here under shall be settled by Arbitration to be held in Daltonganj in

Wanil



accordance with the provisions of the Arbitration and Conciliation Act, 1996 or any statutory amendments thereof or any statute enacted for replacement thereof and shall be referred to sole Arbitration of a person to be nominated by GILCD. The Award including interim Award(s) of the Arbitrator shall be final and binding on all parties concerned. The Arbitrator shall not give any reason for his Award, including interim Award(s). The Arbitrator may lay down from time to time the procedures to be followed by him in conducting Arbitration proceedings and shall conduct Arbitration proceedings in such a manner as he considers appropriate. The cost of arbitration shall be born equally by the parties hereto.

In witness whereof, the parties have put their signatures on 28.11.2019.

Signed and delivered by
the above named :

Signed and delivered by
the above named :

GILCD, REHLA.

For Grasim Industries Ltd.
Chemical Division-Rehla
CPMH
(Unit Head)
W.V.
(Vivek V. Bhide)
Cluster Mfg. Head
Cum Factory Manager



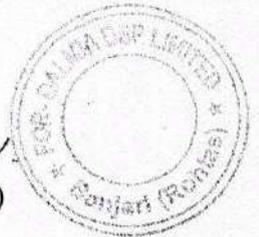
Witness : *PK*

Signature : *PK*

Name : PUNIT KUMAR AGRAWAL

DALMIA DSP LTD..

Sanjeev Kumar
(Authorised Signatory)



Witness :

Signature : *Amal*

Name : RAKESH KUMAR SRIVASTAVA



झारखण्ड JHARKHAND

D 191878

AGREEMENT FOR EVACUATION (TRANSPORTATION/ HANDLING) OF FLY ASH FROM GRASIM INDUSTRIES LTD, CHEMICAL DIVISION- REHLA AND BIHAR CEMENT PLANT (A UNIT OF SHREE CEMENT LTD., BIADA INDUSTRIAL GROWTH CENTRE, AURANGABAD (BIHAR))

This Agreement for evacuation, transportation and supply of Fly Ash is made on this 1st day of September, 2017.

BETWEEN

Grasim Industries Ltd, Chemical Division Rehla, A Unit of Grasim Industries Ltd. (hereinafter referred to as GILCD), a Company incorporated under Companies Act, 1956 and having its factory at Ghanshyam Kunj, Garhwa Road, P.O. Rehla- 822 124, Dist. Palamau in the State of Jharkhand hereinafter called GILCD (which expression shall, unless repugnant to this context or meaning thereof, include its successors and assigns) of the ONE PART

AND

Bihar Cement Plant (A Unit of Shree Cement Ltd.) hereinafter referred to as Bihar Cement Plant, having its factory at Biada, District Aurangabad (Bihar) (which expression shall, unless repugnant to this context or meaning thereof, include its successors and assigns) of the OTHER PART.

Page 1 of 4

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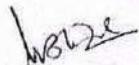
WHEREAS GILCD is operating its 2x30 MW Coal Based Captive Thermal Power Plant at their factory at Rehla and generating fly ash as an Integral part of the operation of Power Plant.

WHEREAS Bihar Cement Plant is operating their Cement Plant at Biada, District Aurangabad (Bihar) and utilizing fly ash as raw materials.

WHEREAS the both parties had detailed discussion regarding evacuation and transportation of fly ash from Ash Silo of 2 x 30MW Coal Based Thermal Power Plant of GILCD, Rehla to Ash unloading Point of Bihar Cement Plant in their joint meeting at GILCD, Rehla on 31.08.2017 and arrived at mutual agreement as mentioned hereunder.

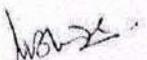
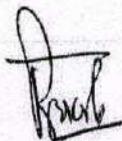
NOW THEREFORE in consideration of the above it is hereby agreed by and between the two parties:

- I. That, Bihar Cement Plant has agreed for lifting and transportation of fly ash being available from generation of 2 x 30MW Power Plant at GILCD, Rehla continuously so as to empty out Ash Silo at GILCD, Rehla fully on daily basis. GILCD, Rehla will provide 24 hours loading facility at their point of discharge of Fly Ash for 100% evacuation.
- II. That GILCD, Rehla will facilitate to the transport vehicles deployed by Bihar Cement Plant for lifting and transportation of Fly Ash to their works.
- III. That, GILCD will make necessary mechanical arrangement at the bottom of ash silo for filling of fly ash into transport vehicles provided by Bihar Cement Plant.
- IV. That, Bihar Cement Plant will make necessary arrangement to ensure 100% evacuation and transportation of available fly ash in Closed containers. In case of any limitations with respect of availability of closed containers, Bihar Cement Plant will take prior permission of GILCD, Rehla for using alternative transport vehicles for a limited period only.
- V. That, in case of any restriction on movement of transport vehicles on account of bandh, elections, strike and any other unforeseen circumstances of whatsoever nature, Bihar Cement Plant will ensure 100% evacuation of available fly ash of power plant of GILCD, Rehla on continuous basis and Ash

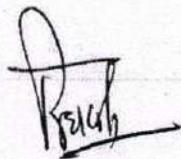


will be transported to the designated place earmarked by GILCD, Rehla on temporary basis with a clear understanding that once the position is normalized, Bihar Cement Plant will lift Fly Ash from such earmarked place to their works. Under such situations of continuous unforeseen circumstances prevailing for some more period and the area earmarked for temporary dumping of Fly Ash is also filed up with Ash, Bihar Cement Plant will be permitted by GILCD, Rehla for bagging of Fly Ash to the extent necessary and such bagged Fly Ash will be transported by Bihar Cement Plant either by Road or Rail soon after the situation normalizes.

- VI. That in case Bihar Cement Plant is unable to evacuate available fly ash on day-to-day basis, GILCD, Rehla will have a right to make its own arrangement for evacuation and transportation of Fly Ash remaining in the silo and the cost so incurred on account of carrying out this job, will be recovered from Bihar Cement Plant. This process of recovery will continue till the adequate arrangement is made by Bihar Cement Plant for evacuation of Ash from the Silo on regular basis.
- VII. That in case of statutory Annual Shutdown/ unforeseen stoppages of Power Plant, GILCD Rehla will not be liable to any losses/ adverse effect of whatsoever of the nature that the Bihar Cement Plant may incur due to non availability of Fly Ash. However in case of statutory Annual Shutdown of GILCD, Rehla Power Plant, GILCD, Rehla will inform Bihar Cement Plant well in advance for the period of their shutdown planning.
- VIII. Bihar Cement Plant will ensure safe handling of ash disposal equipments installed in premises of GILCD, Rehla and filling of Ash from Silo to the Transport vehicles as well as transportation of Fly Ash to their works. In case of any damage to the equipments and property of GILCD during such transportation/ handling activities and use, Bihar Cement Plant will compensate to GILCD suitably to make good the losses suffered on account of damages to the property of GILCD, Rehla during the course of evacuation of Silo, bagging, internal transportation and such other activities etc.



- IX. That Bihar Cement Plant will ensure compliance of all the statutory and environmental aspects involved in the safe transportation of Fly Ash from GILCD, Rehla their factory at Biada, Aurangabad.
- X. That, Bihar Cement Plant will appoint a coordinator at the site of GILCD, Rehla so as to ensure smooth handling and continuous evacuation of Fly Ash.
- XI. That GILCD, Rehla will provide One Room accommodation in their colony to the coordinator of Bihar Cement Plant with a maintenance charges of Rs.3000/- P.M. per month and actual charges of electricity @ Rs. 4.50/ unit, and actual charges of other amenities, if any. The GILCD, Rehla being the owner of said accommodation, has right to call on Bihar Cement Plant to vacate the accommodation according to the situation by giving 15 days notice.
- XII. That, Bihar Cement Plant will submit an amount of Rs. 300000/- (Rupees Three Lacs only) in form of Cash/ Bank Guarantee as "interest free earnest money deposit" which will be forfeited in case of any deviations from any of terms as agreed by Bihar Cement Plant under this agreement without any prior reference to the party.
- XIII. That, Bihar Cement Plant will pay to GILCD, Rehla the price of Fly Ash @ Rs.10/- MT plus taxes, if any for the actual quantity of fly ash lifted from silo of GILCD. The GILCD will raise a tax invoice for the qty. lifted by Bihar Cement Plant.
- XIV. That this agreement is valid for a period of 05(five) years commencing from 01.09.2017 to 31.08.2022 which will be subject to review and revision at the end of every year and GILCD will have the right to amend any of the terms including the administrative charges contained in clause XI to XIII with mutual agreement with Bihar Cement Plant or otherwise in case of non-acceptance of revision of the terms by Bihar Cement Plant, this agreement will stand terminated at the end of the year
- XV. GILCD, Rehla will have the right to terminate this agreement by giving 3 (three) months **notice to Bihar Cement Plant** in the event of failure of lifting the fly Ash on continuous basis and Bihar Cement Plant will be liable to



pay all the dues, charge and other amount as outstanding on the date of termination of the contract.

XVI. All disputes, differences and/or claims arising out of these presents as to their construction, meaning or fact thereof or as to the rights and liabilities of the parties hereunder shall be settled by Arbitration to be held in Daltonganj In accordance with the provisions of the Arbitration and Conciliation Act, 1996 or any statutory amendments thereof or any statute enacted for replacement thereof and shall be referred to sole Arbitration of a person to be nominated by GILCD. The Award including interim Award(s) of the Arbitrator shall be final and binding on all parties concerned. The Arbitrator shall not give any reason for his Award, including interim Award(s). The Arbitrator may lay down from time to time the procedures to be followed by him in conducting Arbitration proceedings and shall conduct Arbitration proceedings in such a manner as he considers appropriate. The cost of arbitration shall be born equally by the parties hereto.

In witness whereof, the parties have put their signatures on 01.09.2017.

Signed and delivered by
the above named :

Signed and delivered by
the above named :

GILCD, REHLA.

For Shree Cement Limited

WBSZ
(Unit Head)



Bihar Cement Plant, Sir

Brijesh
(Authorised Signatory)

Witness :

Witness :

WBSZ
Signature :

Varun
Signature :

Name : BRIJESH KUMAR
BTR. No- A-128, GILCD,
Garkhwa Road, Rehla, Palamau.

Name : Varun Pachawri
Shree Cement Ltd.
Aurangabad (Bihar)
Page 5 of 4

JHARKHAND STATE POLLUTION CONTROL BOARD

REGIONAL OFFICE, C.T.I. COLONY, E-1, DHURWA, RANCHI

Steps taken by M/s Grasim Industries Ltd., at.- Rehla, Dist.-Palamu for control of Environmental Pollution by the initiative of JSPCB.

- (i) The unit was earlier manufacturing 100 TPD caustic soda through mercury cell technology since 1984. In November 2005, the mercury cell technology was abandoned and in February 2006, the operation was started with enhanced caustic production capacity of 225 TPD using membrane cell technology. Thus the generation of mercury bearing sludge was eliminated.
- (ii) The unit has installed ESP in both captive power plant of 30MW capacity. Field up gradation of ESP have been done and higher frequency system have been installed.
- (iii) Salt is transported through closed container instead of bags, eliminating handling of salt in open area.
- (iv) MEE and ATFD have been installed for achieving Zero Effluent Discharge.
- (v) Garland drain around coal stock yard have been constructed.
- (vi) HCL Furnace Tail gas tower (Scrubber) with enhanced design have been installed.
- (vii) Agreement with TSDF for Hazardous Waste and with CBWTF for Bio-medical waste have been made.
- (viii) Dedicated waste management section with segregation under covered shed have been constructed.

In the light of order dated-03.05.2019 passed by Hon'ble National Green Tribunal in O.A. No.-809/201, JSPCB constituted six members committee comprising the following to assess the damage caused and evaluate the compensation for recovery from the unit vide office order no.-B-79, Ranchi, dated-21.06.2019

1. D.F.O., Palamu.
2. CMD, MECON Ltd, Ranchi or his Representative not less that Rank of General Manager.
3. CMD, CMPDIL, Ranchi or his Representative not less that Rank of General Manager
4. HOD, Department of Environmental Science and Engineering, IIT (ISM), Dhanbad or his Representative not less that Professor.
5. Regional Officer, JSPC Board, Ranchi.
6. Dr. Anand Thakur, Asst. Professor Zoology, Ranchi University.

The committee inspected M/s Grasim Industries Ltd., Rehla, Dist.-Palamu on 02-03 July, 2019 and submitted the report to JSPCB.

Anand Thakur
Regional Officer
JSPCB Board, Ranchi