

**Monthly Performance Report  
(HWT-NG100-MPR-27-R0)**

**October 2018  
(From 01/10/2018 to 31/10/2018)**

**100 TPD Municipal Solid Waste (MSW) Facility  
Calangute, North Goa**

*Prepared By*  
**Hindustan Waste Treatment Pvt. Ltd.  
(HWT)**

*Submitted To*  
**Department of Science & Technology (DS&T)  
&  
Goa State Infrastructural Development  
Corporation Limited (GSIDC)**

**Table – 1**  
**Summary of Overall Average Results for October 2018**  
*(As compared to Schedule – 7: Performance Standards, Volume – I of RFP)*

Sr. No.	Parameter	Performance Standard As per Schedule – 7	Actual Performance at Plant (Monthly Average)
1.	Number of fractions of recyclables sorted per day from the input mixed waste	Minimum 10 numbers of fractions shall be sorted daily from the input dry waste as received in the facility. The list of fractions are as follows: 1. PET Bottles 2. Mixed Plastic Articles 3. Newspapers / other Paper Material 4. Cardboard 5. Styrofoam & Thermocol 6. Coconut Shells 7. Clothes 8. Rubber Articles 9. Metal Articles & Cans 10. E-waste Articles and any Hazardous Waste	<b>13 numbers</b> of fractions are being sorted daily from the input dry waste as received in the facility. The list of fractions are as follows: 1. Glass 2. Aluminum 3. Metal 4. Tetrapak 5. Paper / Cardboard 6. Mixed Plastic 7. Hard Plastics 8. PET Bottles 9. Styrofoam & Thermocol 10. Cloth / Rags / Textile 11. Leather / Rubber / Rexine 12. Coconut Shells 13. E-waste Articles and any Hazardous Waste
2.	Quantum of reject/residues to be sent to the landfill after processing. No organic fraction shall be disposed in the landfill.	Maximum 10% of inert of the total input waste as received in the facility (in TPD).	Input waste to the Plant is <b>134.06 TPD</b> . Quantum of Inert is <b>0.37 TPD</b> which is < <b>10%</b> of the Total Input Waste as received in the Facility.  No Organic Waste has been disposed in the Sanitary Landfill Facility.
3.	Electricity generation in the Plant	Minimum electricity to be generated in the plant shall be 0.40 MW per 100 tons of input wet biodegradable waste as received in the Facility (in TPD).	Electricity generation is <b>0.48 MW/100</b> tons of Input Biodegradable Waste as received in the Facility (in TPD).

Sr. No.	Parameter	Performance Standard As per Schedule – 7	Actual Performance at Plant (Monthly Average)										
4.	Biogas Flaring System	The Biogas Flaring System shall strictly be used only in case of emergency and not as a routine practice.	Biogas is being flared strictly, only under emergency and not as a routine practice. The average running time of Biogas Flaring System is <b>1.27 hours/day</b> .										
5.	Discharge of treated effluent conforming to regulatory norms	Effluent Treatment Plant shall be operated under all conditions.	Effluent Treatment Plant is being operated continuously and is meeting all statutory conditions. The Treated Effluent Characteristics are as follows: <table border="1" data-bbox="1036 730 1403 940"> <tbody> <tr> <td>pH</td> <td>6.88</td> </tr> <tr> <td>BOD</td> <td>7 mg/l</td> </tr> <tr> <td>COD</td> <td>73 mg/l</td> </tr> <tr> <td>TSS</td> <td>8 mg/l</td> </tr> <tr> <td>TDS</td> <td>1,626 mg/l</td> </tr> </tbody> </table>	pH	6.88	BOD	7 mg/l	COD	73 mg/l	TSS	8 mg/l	TDS	1,626 mg/l
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TDS	1,626 mg/l												
6.	General Housekeeping, hygienic conditions, cleanliness, safety norms, adequate manpower, treatment methodology for plant operation & maintenance and storage conditions in the plant.	Minimum housekeeping, safety norms and cleanliness conditions shall be maintained at all times as per the Bid Document requirement.	<ul style="list-style-type: none"> <li>• High standard of Housekeeping, Cleanliness and Safety are being maintained at all times at the Plant.</li> <li>• Adequate manpower has been deployed in all shifts.</li> <li>• Also, the treatment methodology is being followed properly and proper storage conditions have been maintained in the Plant.</li> </ul>										

100 TPD Municipal Solid Waste (MSW) Facility at Calangute, North Goa

#	Plant Performance Data: October 2018		
Sr. No.	Content	Month	Signature
1	Input Waste Composition	From 01.10.2018 To 31.10.2018	
2	Recyclables		
3	Electricity Generation		
4	Biogas Flare		
5	Effluent Treatment Plant		
6	Inert		
7	Housekeeping		

1 WASTE:																				
Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average		
<b>1A Input Waste:</b>																				
1	Type 1: Dry Waste	TPD	64.85	65.46	79.45	61.44	65.96	55.90	53.59	63.81	48.63%	65.58	63.87	56.96	60.61	82.31	59.02	58.32	63.81	52.07%
2	Type 2: Wet Waste	TPD	78.98	63.00	63.41	71.02	49.74	55.37	51.53	61.86	47.15%	49.73	52.20	60.79	49.15	52.55	57.96	50.60	53.28	43.48%
3	Type 3: Mixed Waste	TPD	5.24	2.01	0.00	3.03	3.83	3.80	2.52	2.92	2.22%	3.71	5.84	4.18	4.18	4.91	2.16	0.00	3.57	2.91%
4	Type 4: Tree Waste	TPD	4.99	2.30	3.52	0.44	2.62	2.25	2.27	2.63	2.00%	1.75	0.61	1.07	1.63	2.58	2.20	3.34	1.88	1.54%
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>TPD</b>	<b>154.06</b>	<b>132.77</b>	<b>146.38</b>	<b>135.93</b>	<b>122.15</b>	<b>117.32</b>	<b>109.91</b>	<b>131.22</b>	<b>100.00%</b>	<b>120.77</b>	<b>122.52</b>	<b>123.00</b>	<b>115.57</b>	<b>142.35</b>	<b>121.34</b>	<b>112.26</b>	<b>122.54</b>	<b>100.00%</b>

- # **Note:**  
 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75%  
 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%  
 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55%

Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average		
<b>1B Output Products:</b>																				
1	Organic Fraction	TPD	74.41	61.73	62.86	65.53	54.38	52.84	49.97	60.25	45.91%	51.69	54.29	59.64	51.99	58.03	57.51	48.91	54.58	44.54%
2	Inorganic Fraction:																			
	Recyclables	TPD	10.35	10.05	10.79	10.73	8.61	8.33	8.00	9.55	7.28%	8.59	8.75	9.34	8.17	10.16	8.36	8.50	8.84	7.21%
	RDF	TPD	61.88	56.88	65.70	57.33	49.02	52.46	47.97	55.89	42.59%	55.73	57.45	50.80	52.14	69.41	51.44	49.70	55.24	45.08%
	Bulking Material	TPD	2.43	1.81	2.23	1.90	1.83	1.44	1.70	1.91	1.45%	1.69	1.39	1.99	1.36	1.75	1.70	1.59	1.64	1.34%
	Inert	TPD	0.00	0.00	1.29	0.00	5.70	0.00	0.00	1.00	0.76%	1.32	0.03	0.16	0.28	0.12	0.22	0.22	0.36	0.30%
3	Tree Waste	TPD	4.99	2.30	3.52	0.44	2.62	2.25	2.27	2.63	2.00%	1.75	0.61	1.07	1.63	2.58	2.20	3.34	1.88	1.54%
	<b>Total.....(1)+(2)+(3)</b>	<b>TPD</b>	<b>154.06</b>	<b>132.77</b>	<b>146.38</b>	<b>135.93</b>	<b>122.15</b>	<b>117.32</b>	<b>109.91</b>	<b>131.22</b>	<b>100.00%</b>	<b>120.77</b>	<b>122.52</b>	<b>123.00</b>	<b>115.57</b>	<b>142.35</b>	<b>121.34</b>	<b>112.26</b>	<b>122.54</b>	<b>100.00%</b>

2 RECYCLABLES:																		
Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
1	Glass	Kg	224	144	200	190	120	161	140	168	167	158	146	171	140	179	163	161
2	Aluminum	Kg	149	78	129	135	84	58	108	106	95	110	122	91	98	83	98	100
3	Metal	Kg	224	222	286	271	239	219	194	236	214	207	219	228	280	214	174	219
4	Tetra Pack	Kg	149	117	100	68	108	92	86	103	119	98	61	57	126	83	98	92
5	Hard Plastic	Kg	209	183	214	244	215	127	140	190	238	171	232	171	280	238	196	218
6	PET	Kg	194	196	143	271	203	173	118	185	143	207	159	228	224	131	207	186
7	Mixed Plastic	Kg	9,108	9,029	9,643	9,484	7,554	7,445	7,126	8,484	7,546	7,705	8,316	7,167	8,889	7,315	7,494	7,776
8	Thermocol + Styrofoam	Kg	89	78	71	68	84	58	86	76	71	98	85	57	126	119	65	89
9	Cloth + Rags + Textiles	Kg	1,431	744	1,043	921	1,159	713	538	936	1,059	914	1,183	1,082	895	905	762	971
10	Leather + Rexine + Rubber	Kg	1,237	939	1,286	1,260	1,100	748	743	1,045	595	744	622	980	1,188	1,191	621	849
11	Paper + Cardboard	Kg	954	783	986	854	789	748	678	827	809	768	780	729	853	751	719	773
12	Coconut	Kg	1,476	1,031	1,243	1,043	1,040	690	1,023	1,078	881	622	1,207	627	895	953	871	865

- # **Note:**  
 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.  
 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

3 ELECTRICITY GENERATION:																		
Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
<b>3.1 Biogas Gensets:</b>																		
1	Biogas Genset-I: Running Time	hr	22.16	19.57	20.99	17.73	16.25	18.05	16.85	18.80	20.80	19.20	19.05	21.70	20.70	19.30	18.35	19.87
2	Biogas Genset-I: Energy Generation	kW.hr	3,680	3,220	3,310	3,160	1,870	2,410	2,050	2,814	2,430	2,330	2,500	2,500	2,750	2,270	2,360	2,449
3	Biogas Genset-II: Running Time	hr	15.35	20.80	15.95	18.70	15.88	18.10	16.20	17.28	21.05	19.15	20.65	21.45	20.65	16.91	18.05	19.70
4	Biogas Genset-II: Energy Generation	kW.hr	1,670	2,180	1,710	1,950	2,650	2,350	1,970	2,069	2,370	2,220	2,630	2,370	2,600	2,750	2,240	2,454
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>kW.hr</b>	<b>5,350</b>	<b>5,400</b>	<b>5,020</b>	<b>5,110</b>	<b>4,520</b>	<b>4,760</b>	<b>4,020</b>	<b>4,883</b>	<b>4,800</b>	<b>4,550</b>	<b>5,130</b>	<b>4,870</b>	<b>5,350</b>	<b>5,020</b>	<b>4,600</b>	<b>4,903</b>
<b>3.2 Electricity Generation:</b>																		
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
2	Biodegradable Waste	TPD	74.41	61.73	62.86	65.53	54.38	52.84	49.97	60.25	51.69	54.29	59.64	51.99	58.03	57.51	48.91	54.58
3	Electricity Generation = 100 * ((A2 ÷ A1) + (A4 ÷ A3)) ÷ 1000 ÷ 1B.1	kW	275	269	265	283	282	263	243	269	229	237	259	226	259	280	253	249
4	Electricity Generation	MW/100 MT	0.46	0.45	0.44	0.47	0.52	0.50	0.49	0.47	0.44	0.44	0.43	0.43	0.45	0.49	0.52	0.46

4 BIOGAS FLARE:																		
Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
1	Operation Time	hr/day	6.65	1.40	0.12	0.00	0.00	0.00	0.00	1.17	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

**5 EFFLUENT TREATMENT PLANT:**

Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
<b>5.1 Raw Effluent Quality:</b>																		
1	Flow	m <sup>3</sup> /day	76.48	85.44	86.08	89.95	93.67	85.29	86.75	86.24	93.14	56.63	87.19	88.69	80.19	88.19	88.77	83.26
2	pH	---	6.22	6.20	7.61	6.23	7.20	6.43	7.78	6.81	7.50	7.22	7.09	6.42	6.13	7.38	6.82	6.94
3	Biochemical Oxygen Demand (BOD5)	mg/l	1,712	1,613	2,379	2,234	2,384	2,112	1,668	2,015	1,719	1,897	2,065	2,338	2,118	2,191	1,578	1,987
4	Chemical Oxygen Demand (COD)	mg/l	3,732	4,162	5,186	5,406	7,581	4,625	4,103	4,971	3,593	5,653	4,254	7,365	7,265	4,470	4,103	5,243
5	Total Suspended Solids (TSS)	mg/l	3,715	2,484	4,806	4,044	4,148	4,562	2,702	3,780	4,263	4,306	5,142	4,302	4,130	3,922	3,014	4,154
6	Total Dissolve Solids (TDS)	mg/l	1,740	1,698	1,676	1,428	1,754	1,330	1,325	1,564	1,414	1,774	1,448	1,581	1,447	1,507	1,324	1,499
<b>5.2 Treated Effluent Quality:</b>																		
1	pH	---	7.18	6.72	7.28	7.36	6.65	6.53	6.87	6.94	6.53	6.70	6.98	6.70	6.54	7.49	6.97	6.84
2	Biochemical Oxygen Demand (BOD5)	mg/l	7	8	6	5	6	6	9	7	8	8	9	6	8	6	8	8
3	Chemical Oxygen Demand (COD)	mg/l	75	90	83	60	72	52	65	71	62	77	73	64	64	51	83	68
4	Total Suspended Solids (TSS)	mg/l	8	9	7	6	7	7	10	8	9	9	10	7	9	7	9	9
5	Total Dissolve Solids (TDS)	mg/l	1,775	1,817	1,777	1,514	1,772	1,383	1,378	1,631	1,428	1,809	1,593	1,739	1,461	1,537	1,364	1,562

**6 DISPOSAL OF INERT:**

Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
1	As per Tender: Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.																	
2	Input Waste	TPD	149.07	130.47	142.86	135.49	119.53	115.07	107.64	128.59	119.02	121.91	121.93	113.94	139.77	119.14	108.92	120.66
3	Inert Fraction	TPD	0.00	0.00	1.29	0.00	5.70	0.00	0.00	1.00	1.32	0.03	0.16	0.28	0.42	0.12	0.22	0.36
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	0.90%	0.00%	4.77%	0.00%	0.00%	0.81%	1.11%	0.02%	0.13%	0.25%	0.30%	0.10%	0.20%	0.30%

**7 HOUSEKEEPING:**

Sr. No.	Description	Unit	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	Weekly Average	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Weekly Average
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted

**1 WASTE:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average		22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average	
<b>1A</b>	<b>Input Waste:</b>																			
1	Type 1: Dry Waste	TPD	56.86	66.55	60.57	66.83	60.42	76.72	62.11	64.29	47.87%	68.83	73.83	75.40	58.79	69.23	71.46	64.43	68.85	48.73%
2	Type 2: Wet Waste	TPD	62.16	66.16	65.18	51.70	75.49	62.43	74.78	65.41	48.71%	78.82	68.76	65.66	64.05	57.60	80.31	60.19	67.91	48.06%
3	Type 3: Mixed Waste	TPD	6.83	2.15	1.85	1.35	2.27	0.00	1.94	2.34	1.74%	4.77	2.53	3.38	1.46	2.02	0.00	1.74	2.27	1.61%
4	Type 4: Tree Waste	TPD	0.98	3.68	2.76	1.80	1.18	4.54	0.81	2.25	1.68%	2.79	2.67	1.72	3.13	1.29	2.16	2.14	2.27	1.61%
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>TPD</b>	<b>126.83</b>	<b>138.54</b>	<b>130.36</b>	<b>121.68</b>	<b>139.36</b>	<b>143.69</b>	<b>139.64</b>	<b>134.30</b>	<b>100.00%</b>	<b>155.21</b>	<b>147.79</b>	<b>146.16</b>	<b>127.43</b>	<b>130.14</b>	<b>153.93</b>	<b>128.50</b>	<b>141.31</b>	<b>100.00%</b>

- # **Note:**  
 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75%  
 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%  
 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55%

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average		22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average	
<b>1B</b>	<b>Output Products:</b>																			
1	Organic Fraction	TPD	61.50	64.77	62.70	52.51	68.40	64.20	67.64	63.10	46.99%	72.53	66.46	64.49	58.54	60.62	72.55	60.11	65.04	46.03%
2	Inorganic Fraction:																			
	Recyclables	TPD	9.07	9.97	8.94	9.00	10.18	9.59	9.86	9.52	7.09%	11.43	11.00	10.50	8.61	9.33	11.61	9.38	10.27	7.26%
	RDF	TPD	53.72	58.21	54.49	56.39	57.99	63.64	57.67	57.44	42.77%	66.04	65.13	67.77	55.57	56.29	65.70	54.86	61.62	43.61%
	Bulking Material	TPD	1.56	1.92	1.47	1.98	1.60	1.73	1.90	1.74	1.29%	2.42	1.68	1.68	1.58	1.73	1.91	2.01	1.86	1.32%
	Inert	TPD	0.00	0.00	0.00	0.00	0.00	0.00	1.76	0.25	0.19%	0.00	0.85	0.00	0.00	0.88	0.00	0.00	0.25	0.17%
3	Tree Waste	TPD	0.98	3.68	2.76	1.80	1.18	4.54	0.81	2.25	1.68%	2.79	2.67	1.72	3.13	1.29	2.16	2.14	2.27	1.61%
	<b>Total.....(1)+(2)+(3)</b>	<b>TPD</b>	<b>126.83</b>	<b>138.54</b>	<b>130.36</b>	<b>121.68</b>	<b>139.36</b>	<b>143.69</b>	<b>139.64</b>	<b>134.30</b>	<b>100.00%</b>	<b>155.21</b>	<b>147.79</b>	<b>146.16</b>	<b>127.43</b>	<b>130.14</b>	<b>153.93</b>	<b>128.50</b>	<b>141.31</b>	<b>100.00%</b>

**2 RECYCLABLES:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average		22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average	
1	Glass	Kg	176	202	166	120	138	139	167	158		198	174	217	137	129	212	139	172	
2	Aluminum	Kg	126	121	102	84	83	97	69	97		152	145	87	75	116	137	126	120	
3	Metal	Kg	227	270	230	240	276	278	208	247		274	261	260	224	206	228	215	238	
4	Tetra Pack	Kg	88	67	128	72	138	125	97	102		122	87	87	116	91	101	101	99	
5	Hard Plastic	Kg	252	243	204	144	221	181	278	218		244	276	289	124	180	152	190	208	
6	PET	Kg	252	216	179	228	152	264	278	224		183	247	217	224	206	288	215	226	
7	Mixed Plastic	Kg	7,853	8,752	7,835	7,996	9,051	8,377	8,621	8,355		10,166	9,665	9,230	7,644	8,285	10,366	8,277	9,090	
8	Thermocol + Styrofoam	Kg	101	94	102	120	124	125	139	115		91	145	116	99	90	137	114	113	
9	Cloth + Rags + Textiles	Kg	755	728	638	911	1,092	710	750	798		1,402	1,219	1,257	1,106	1,069	1,457	771	1,183	
10	Leather + Rexine + Rubber	Kg	1,221	1,106	893	1,055	912	1,225	1,236	1,093		1,235	1,219	1,199	945	1,276	1,078	1,226	1,168	
11	Paper + Cardboard	Kg	768	809	829	803	843	863	902	831		1,067	958	924	870	889	941	885	933	
12	Coconut	Kg	793	1,106	638	1,175	760	863	1,000	905		1,357	726	751	709	838	971	1,125	925	

- # **Note:**  
 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.  
 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

**3 ELECTRICITY GENERATION:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average		22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average	
<b>3.1</b>	<b>Biogas Gensets:</b>																			
1	Biogas Genset-I: Running Time	hr	21.95	22.05	23.90	23.85	23.25	23.85	22.00	22.98		21.05	22.80	22.50	21.20	22.50	21.90	23.95	22.27	
2	Biogas Genset-I: Energy Generation	kW.hr	2,700	3,010	3,180	3,080	3,180	3,330	3,270	3,107		3,240	3,370	3,310	2,850	3,360	3,530	3,890	3,364	
3	Biogas Genset-II: Running Time	hr	17.32	22.00	23.95	23.90	23.25	23.90	21.95	22.32		21.00	22.80	22.50	21.20	22.50	21.95	23.95	22.27	
4	Biogas Genset-II: Energy Generation	kW.hr	2,890	2,840	2,970	2,840	3,010	3,170	3,120	2,977		3,070	3,190	3,120	2,620	3,170	3,380	3,700	3,179	
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>kW.hr</b>	<b>5,590</b>	<b>5,850</b>	<b>6,150</b>	<b>5,920</b>	<b>6,190</b>	<b>6,500</b>	<b>6,390</b>	<b>6,084</b>		<b>6,310</b>	<b>6,560</b>	<b>6,430</b>	<b>5,470</b>	<b>6,530</b>	<b>6,910</b>	<b>7,590</b>	<b>6,543</b>	
<b>3.2</b>	<b>Electricity Generation:</b>																			
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
2	Biodegradable Waste	TPD	61.50	64.77	62.70	52.51	68.40	64.20	67.64	63.10		72.53	66.46	64.49	58.54	60.62	72.55	60.11	65.04	
3	Electricity Generation = 100 * ((A2 ÷ A1) + (A4 ÷ A3)) ÷ 1000 ÷ 1B.1	kW	290	266	257	248	266	272	291	270		300	288	286	258	290	315	317	293	
4	Electricity Generation	MW/100 MT	0.48	0.44	0.43	0.47	0.44	0.45	0.48	0.46		0.50	0.48	0.48	0.44	0.48	0.53	0.53	0.49	

**4 BIOGAS FLARE:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average		22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average	
1	Operation Time	hr/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.12	6.12	3.28	7.28	12.47	4.18	

**5 EFFLUENT TREATMENT PLANT:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average
<b>5.1 Raw Effluent Quality:</b>																		
1	Flow	m <sup>3</sup> /day	73.94	74.76	75.55	96.30	97.47	92.32	91.50	85.98	93.04	105.48	106.23	96.78	87.01	87.01	91.00	95.22
2	pH	---	7.48	6.61	6.58	6.32	7.47	7.47	7.38	7.04	6.41	6.44	6.14	6.45	7.72	6.49	6.63	6.61
3	Biochemical Oxygen Demand (BOD5)	mg/l	2,357	2,019	2,024	2,128	2,142	2,384	1,960	2,145	1,897	1,596	1,888	2,205	2,191	1,579	2,326	1,955
4	Chemical Oxygen Demand (COD)	mg/l	5,256	4,866	6,578	4,745	4,648	6,628	4,469	5,313	4,970	5,474	5,400	5,468	6,661	3,300	7,164	5,491
5	Total Suspended Solids (TSS)	mg/l	3,677	4,220	3,785	4,192	4,155	4,196	4,214	4,063	3,566	3,926	3,474	4,741	4,097	3,095	5,466	4,052
6	Total Dissolve Solids (TDS)	mg/l	1,556	1,649	1,773	1,463	1,727	1,449	1,581	1,600	1,334	1,557	1,308	1,683	1,484	1,508	1,304	1,454
<b>5.2 Treated Effluent Quality:</b>																		
1	pH	---	6.65	6.90	7.15	7.36	6.90	6.89	7.14	7.00	6.54	7.25	6.66	6.79	6.51	7.32	7.43	6.93
2	Biochemical Oxygen Demand (BOD5)	mg/l	9	8	8	5	8	9	8	8	5	9	6	6	9	5	5	7
3	Chemical Oxygen Demand (COD)	mg/l	88	78	55	51	87	73	55	70	53	80	78	91	66	52	73	70
4	Total Suspended Solids (TSS)	mg/l	10	9	9	6	9	10	9	9	6	10	7	7	10	10	6	8
5	Total Dissolve Solids (TDS)	mg/l	1,603	1,698	1,826	1,595	1,779	1,463	1,755	1,674	1,427	1,619	1,386	1,717	1,529	1,553	1,356	1,512

**6 DISPOSAL OF INERT:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average
1	As per Tender: Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.																	
2	Input Waste	TPD	125.85	134.86	127.60	119.88	138.18	139.15	138.83	132.05	152.42	145.12	144.44	124.30	128.85	151.77	126.36	139.04
3	Inert Fraction	TPD	0.00	0.00	0.00	0.00	0.00	0.00	1.76	0.25	0.00	0.85	0.00	0.00	0.88	0.00	0.00	0.25
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.27%	0.18%	0.00%	0.59%	0.00%	0.00%	0.68%	0.00%	0.00%	0.18%

**7 HOUSEKEEPING:**

Sr. No.	Description	Unit	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	Weekly Average	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	Weekly Average
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted



**1 WASTE:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average		Monthly Average	
<b>1A</b>	<b>Input Waste:</b>								
1	Type 1: Dry Waste	TPD	65.82	68.85	64.94	66.54	47.21%	65.46	48.90%
2	Type 2: Wet Waste	TPD	75.15	66.66	70.43	70.75	50.20%	63.84	47.52%
3	Type 3: Mixed Waste	TPD	2.37	0.00	1.29	1.22	0.87%	2.46	1.87%
4	Type 4: Tree Waste	TPD	3.15	2.80	1.31	2.42	1.72%	2.29	1.71%
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>TPD</b>	<b>146.49</b>	<b>138.31</b>	<b>137.97</b>	<b>140.92</b>	<b>100.00%</b>	<b>134.06</b>	<b>100.00%</b>

# **Note:**

- 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75%
- 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%
- 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55%

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average		Monthly Average	
<b>1B</b>	<b>Output Products:</b>								
1	Organic Fraction	TPD	72.64	64.11	64.33	67.03	47.56%	62.00	46.21%
2	Inorganic Fraction:								
	Recyclables	TPD	11.02	10.22	9.54	10.26	7.28%	9.69	7.22%
	RDF	TPD	57.70	59.45	61.22	59.46	42.19%	57.93	43.25%
	Bulking Material	TPD	1.98	1.73	1.57	1.76	1.25%	1.78	1.33%
	Inert	TPD	0.00	0.00	0.00	0.00	0.00%	0.37	0.28%
3	Tree Waste	TPD	3.15	2.80	1.31	2.42	1.72%	2.29	1.71%
	<b>Total.....(1)+(2)+(3)</b>	<b>TPD</b>	<b>146.49</b>	<b>138.31</b>	<b>137.97</b>	<b>140.92</b>	<b>100.00%</b>	<b>134.06</b>	<b>100.00%</b>

**2 RECYCLABLES:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average		Monthly Average	
1	Glass	Kg	158	163	178	166		165	
2	Aluminum	Kg	72	136	96	101		105	
3	Metal	Kg	287	257	232	259		240	
4	Tetra Pack	Kg	100	95	123	106		100	
5	Hard Plastic	Kg	186	190	191	189		205	
6	PET	Kg	229	149	137	172		199	
7	Mixed Plastic	Kg	9,919	9,147	8,500	9,189		8,579	
8	Thermocol + Styrofoam	Kg	72	81	82	78		94	
9	Cloth + Rags + Textiles	Kg	975	1,098	888	987		975	
10	Leather + Rexine + Rubber	Kg	1,147	1,152	1,353	1,217		1,074	
11	Paper + Cardboard	Kg	889	935	820	881		849	
12	Coconut	Kg	1,089	800	752	880		931	

# **Note:**

- 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.
- 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

**3 ELECTRICITY GENERATION:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average		Monthly Average	
<b>3.1</b>	<b>Biogas Gensets:</b>								
1	Biogas Genset-I: Running Time	hr	21.90	23.95	24.00	23.28		21.44	
2	Biogas Genset-I: Energy Generation	kW.hr	3,560	4,070	4,050	3,893		3,126	
3	Biogas Genset-II: Running Time	hr	20.40	23.95	24.00	22.78		20.87	
4	Biogas Genset-II: Energy Generation	kW.hr	3,260	4,040	3,990	3,763		2,888	
5	<b>Total.....(1)+(2)+(3)+(4)</b>	<b>kW.hr</b>	<b>6,820</b>	<b>8,110</b>	<b>8,040</b>	<b>7,657</b>		<b>6,014</b>	
<b>3.2</b>	<b>Electricity Generation:</b>								
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.4	0.4	0.4	0.4		0.4	
2	Biodegradable Waste	TPD	72.64	64.11	64.33	67.03		62.00	
3	Electricity Generation = $100 * \{(A2 \div A1) + (A4 \div A3)\} \div 1000 \div 1B.1$	kW	322	339	335	332		283	
4	Electricity Generation	MW/100 MT	0.54	0.56	0.56	0.53		0.48	

**4 BIOGAS FLARE:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average		Monthly Average	
1	Operation Time	hr/day	3.02	0.00	0.00	1.01		1.27	

**5 EFFLUENT TREATMENT PLANT:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average	Monthly Average
<b>5.1 Raw Effluent Quality:</b>							
1	Flow	m <sup>3</sup> /day	89.80	99.08	103.44	97.44	89.63
2	pH	---	7.52	7.60	7.16	7.43	6.97
3	Biochemical Oxygen Demand (BOD5)	mg/l	2,008	1,987	1,946	1,980	2,016
4	Chemical Oxygen Demand (COD)	mg/l	6,064	5,385	4,281	5,243	5,252
5	Total Suspended Solids (TSS)	mg/l	3,293	3,298	3,581	3,391	3,888
6	Total Dissolve Solids (TDS)	mg/l	1,775	1,424	1,591	1,597	1,543
<b>5.2 Treated Effluent Quality:</b>							
1	pH	---	6.72	6.80	6.56	6.69	6.88
2	Biochemical Oxygen Demand (BOD5)	mg/l	6	9	7	7	7
3	Chemical Oxygen Demand (COD)	mg/l	86	78	91	85	73
4	Total Suspended Solids (TSS)	mg/l	7	10	8	8	8
5	Total Dissolve Solids (TDS)	mg/l	1,953	1,566	1,734	1,751	1,626

**6 DISPOSAL OF INERT:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average	Monthly Average
1	<u>As per Tender:</u> Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.						
2	Input Waste	TPD	143.34	135.51	136.66	138.50	131.77
3	Inert Fraction	TPD	0.00	0.00	0.00	0.00	0.37
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	0.00%	0.00%	0.29%

**7 HOUSEKEEPING:**

Sr. No.	Description	Unit	29-Oct	30-Oct	31-Oct	Weekly Average	Monthly Average
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted