

**Monthly Performance Report
(HWT-NG100-MPR-32-R0)**

**March 2019
(From 01/03/2019 to 31/03/2019)**

**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)
Goa Waste Management Corporation (GWMC)**

Table – 1
Summary of Overall Average Results for March 2019
(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	13 numbers 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. Aluminium 3. Metal 4. Paper + Cardboard 5. Tetra Pack 6. Hard Plastic 7. PET 8. Mixed Plastic 9. Styrofoam + Thermocol 10. Cloth + Rags + Textile 11. Leather + Rexine + Rubber 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 150.61 TPD . Quantum of Inert is 0.77 TPD which is < 10% 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 0.59 MW/100 MT of Input Biodegradable Waste as received in the Facility (in TPD).
4.	Biogas Flaring System	The Biogas Flaring System shall strictly be used only in case of	Biogas is being flared strictly, only under emergency and not as a

Sr. No.	Parameter	Performance Standard As per Schedule – 7	Actual Performance at Plant (Monthly Average)										
		emergency and not as a routine practice.	routine practice. The average running time of Biogas Flaring System is 0.98 hours/day .										
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="1032 646 1403 856"> <tbody> <tr> <td>pH</td> <td>6.99</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>1,632 mg/l</td> </tr> </tbody> </table>	pH	6.99	BOD	7 mg/l	COD	73 mg/l	TSS	8 mg/l	TDS	1,632 mg/l
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TDS	1,632 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"> • High standard of Housekeeping, Cleanliness and Safety are being maintained at all times at the Plant. • Adequate manpower has been deployed in all shifts. • Also, the treatment methodology is being followed properly and proper storage conditions have been maintained in the Plant. 										

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

#	Plant Performance Data: March 2019		
Sr. No.	Content	Month	Signature
1	Input Waste Composition	From 01.03.2019 To 31.03.2019	
2	Recyclables		
3	Electricity Generation		
4	Biogas Flare		
5	Effluent Treatment Plant		
6	Inert		
7	Housekeeping		

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

1 WASTE:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar		
1A Input Waste:																									
1	Type 1: Dry Waste	TPD	71.25	64.24	57.34	68.25	66.29	56.63	63.41	63.92	41.87%	59.210	53.990	52.590	67.900	64.640	60.610	64.350	60.47	40.90%	60.84	57.41	50.78	77.29	59.50
2	Type 2: Wet Waste	TPD	83.44	81.12	95.28	87.89	88.96	86.74	84.57	86.86	56.89%	87.080	86.910	85.350	90.800	88.880	79.670	78.020	85.24	57.65%	79.33	89.48	81.61	76.81	88.95
3	Type 3: Mixed Waste	TPD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	
4	Type 4: Tree Waste	TPD	1.73	4.90	1.66	0.58	2.33	0.77	1.28	1.89	1.24%	2.080	1.480	4.980	2.850	0.320	1.350	1.940	2.14	1.45%	0.70	4.40	0.82	2.65	2.23
5	Total.....(1)+(2)+(3)+(4)	TPD	156.42	150.26	154.28	156.72	157.58	144.14	149.26	152.67	100.00%	148.37	142.38	142.92	161.55	153.84	141.63	144.31	147.86	100.00%	140.87	151.29	133.21	156.75	150.68

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

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar		
1B Output Products:																									
1	Organic Fraction	TPD	76.83	73.51	79.53	81.47	77.71	74.15	72.51	76.53	50.13%	76.10	71.01	71.43	79.51	75.73	72.66	70.22	73.81	49.92%	71.57	73.84	68.28	71.64	77.23
2	Inorganic Fraction:																								
	Recyclables	TPD	12.03	11.22	11.83	10.84	11.89	10.41	10.26	11.21	7.34%	10.43	10.40	9.42	11.66	11.88	9.81	10.07	10.52	7.12%	10.18	10.39	10.02	11.17	10.61
	RDF	TPD	63.74	58.65	57.59	61.77	63.60	55.60	63.02	60.57	39.67%	57.59	54.92	55.27	63.75	63.70	55.82	60.33	58.77	39.75%	56.69	58.29	52.18	68.96	58.74
	Bulking Material	TPD	2.09	1.98	1.74	2.06	2.05	2.29	2.19	2.06	1.35%	2.17	1.94	1.82	2.30	2.21	1.99	1.75	2.03	1.37%	1.74	1.66	1.91	2.33	1.87
	Inert	TPD	0.00	0.00	1.93	0.00	0.00	0.92	0.00	0.41	0.27%	0.00	2.63	0.00	1.47	0.00	0.00	0.00	0.59	0.40%	0.00	2.72	0.00	0.00	0.00
3	Tree Waste	TPD	1.73	4.90	1.66	0.58	2.33	0.77	1.28	1.89	1.24%	2.08	1.48	4.98	2.85	0.32	1.35	1.94	2.14	1.45%	0.70	4.40	0.82	2.65	2.23
5	Total.....(1)+(2)+(3)	TPD	156.42	150.26	154.28	156.72	157.58	144.14	149.26	152.67	100.00%	148.37	142.38	142.92	161.55	153.84	141.63	144.31	147.86	100.00%	140.87	151.29	133.21	156.75	150.68

2 RECYCLABLES:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
1	Glass	Kg	201	189	183	156	233	143	178	183	176	141	179	206	200	154	157	173	182	191	159	185	223
2	Aluminum	Kg	93	131	137	109	78	86	133	110	102	70	83	79	154	126	128	106	140	103	66	154	74
3	Metal	Kg	248	262	290	265	311	258	296	276	278	211	234	254	307	267	214	252	252	294	265	247	282
4	Tetra Pack	Kg	139	131	137	141	124	115	148	134	73	85	97	159	92	140	100	107	84	147	66	108	89
5	Hard Plastic	Kg	248	189	244	265	279	143	192	223	190	225	166	222	261	168	171	200	196	279	225	308	178
6	PET	Kg	248	247	305	234	202	158	192	227	234	240	166	238	246	253	256	233	266	235	238	277	282
7	Mixed Plastic	Kg	10,735	10,001	10,409	9,556	10,573	9,362	8,997	9,948	9,275	9,299	8,359	10,347	10,531	8,613	8,912	9,334	8,915	9,048	8,883	9,755	9,382
8	Thermocol + Styrofoam	Kg	124	73	122	109	93	143	118	112	102	127	138	159	92	84	128	119	140	88	119	139	104
9	Cloth + Rags + Textiles	Kg	1,408	829	977	1,265	1,056	1,419	1,051	1,144	731	874	1,021	1,111	1,059	1,080	755	947	953	896	1,297	1,510	757
10	Leather + Rexine + Rubber	Kg	1,191	1,366	824	1,155	947	1,333	1,136	1,136	966	916	1,324	1,079	1,197	1,150	883	1,074	1,051	1,072	1,258	1,002	935
11	Paper + Cardboard	Kg	1,005	945	962	968	994	889	888	950	1,024	902	910	1,063	921	968	997	969	841	911	794	986	935
12	Coconut	Kg	1,083	1,032	778	1,093	1,056	1,405	1,302	1,107	1,141	1,043	910	1,238	1,290	1,024	755	1,057	897	749	1,112	1,341	935

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-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
3.1 Biogas Gensets:																							
1	Biogas Genset-I: Running Time	hr	20.62	20.83	22.12	22.27	20.57	16.91	22.52	20.83	22.20	21.12	21.56	18.03	19.40	18.68	22.62	20.52	23.90	19.63	19.69	19.79	22.48
2	Biogas Genset-I: Energy Generation	kW.hr	3,594	3,675	3,833	3,844	3,758	3,019	3,902	3,660.71	3,818	3,541	3,917	3,131	3,477	3,239	3,942	3,580.71	4,086	3,410	3,341	3,438	4,091
3	Biogas Genset-II: Running Time	hr	18.70	21.41	21.05	19.58	21.47	18.10	20.00	20.04	18.60	21.21	18.66	22.52	20.03	23.47	22.56	21.01	22.39	22.26	21.30	20.31	21.18
4	Biogas Genset-II: Energy Generation	kW.hr	3,338	3,698	3,664	3,668	3,706	3,157	3,612	3,506.14	3,187	3,765	3,217	3,865	4,037	4,050	3,662.00	3,912	4,044	3,802	3,661	3,714	
5	Total.....(1)+(2)+(3)+(4)	kW.hr	6,932	7,373	7,497	7,212	7,464	6,176	7,514	7,167	7,005	7,306	7,134	6,996	6,990	7,276	7,992	7,243	7,998	7,454	7,143	7,099	7,805
3.2 Electricity Generation:																							
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	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
2	Biodegradable Waste	TPD	76.83	73.51	79.53	81.47	77.71	74.15	72.51	76.53	76.10	71.01	71.43	79.51	75.73	72.66	70.22	73.81	71.57	73.84	68.28	71.64	77.23
3	Electricity Generation = 100 * ((A2 ÷ A1) + (A4 ÷ A3)) ÷ 1000 ÷ 1B.1	kW	353	349	347	345	355	353	354	351	343	345	354	345	355	345	354	349	346	355	348	354	357
4	Electricity Generation	MW/100 MT	0.59	0.58	0.58	0.57	0.59	0.59	0.59	0.58	0.57	0.58	0.59	0.58	0.59	0.58	0.59	0.58	0.58	0.59	0.58	0.59	0.60

4 BIOGAS FLARE:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
1	Operation Time	hr/day	4.783	0.833	0.533	0.100	0.000	0.000	0.000	0.89	0.000	0.367	1.200	0.250	0.617	0.000	0.000	0.35	0.000	0.000	0.000	0.000	0.000

5 EFFLUENT TREATMENT PLANT:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
5.1 Raw Effluent Quality:																							
1	Flow	m ³ /day	94.31	95.26	84.97	99.87	100.36	92.46	90.74	94.00	91.66	89.78	82.44	61.73	61.73	90.65	68.66	78.09	83.62	55.61	72.54	49.77	73.77
2	pH	---	6.36	7.96	6.12	6.54	6.63	7.34	6.29	6.75	7.64	6.39	6.49	6.72	7.03	6.67	7.19	6.88	6.47	7.12	6.54	6.29	7.36
3	Biochemical Oxygen Demand (BOD5)	mg/l	2,162	1,815	1,695	2,465	1,519	1,892	2,115	1,952	1,970	2,048	1,842	2,304	2,141	2,324	1,749	2,054	1,870	2,380	2,446	1,944	1,848
4	Chemical Oxygen Demand (COD)	mg/l	6,075	3,703	3,526	7,346	4,967	4,162	6,853	5,233	5,181	4,383	5,084	7,764	5,353	7,460	4,215						

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

6 DISPOSAL OF INERT:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
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	154.69	145.36	152.62	156.14	155.25	143.37	147.98	150.77	146.29	140.90	137.94	158.70	153.52	140.28	142.37	145.71	140.17	146.89	132.39	154.10	148.45
3	Inert Fraction	TPD	0.00	0.00	1.93	0.00	0.00	0.92	0.00	0.41	0.00	2.63	0.00	1.47	0.00	0.00	0.00	0.59	0.00	2.72	0.00	0.00	0.00
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	1.26%	0.00%	0.00%	0.64%	0.00%	0.27%	0.00%	1.87%	0.00%	0.93%	0.00%	0.00%	0.00%	0.40%	0.00%	1.85%	0.00%	0.00%	0.00%

7 HOUSEKEEPING:

Sr. No.	Description	Unit	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	Weekly Average	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	Weekly Average	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	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	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted	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	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted	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	Accepted	Accepted	Accepted	Accepted	Accepted

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

1 WASTE:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
1A Input Waste:																						
1	Type 1: Dry Waste	TPD	53.60	35.20	56.37	40.54%	55.30	77.04	56.61	73.92	67.58	72.51	62.40	66.48	42.19%	71.05	57.85	64.97	64.62	41.44%	62.37	41.39%
2	Type 2: Wet Waste	TPD	84.37	64.85	80.77	58.08%	83.24	98.69	90.45	93.31	91.33	80.65	86.56	89.18	56.60%	91.30	88.63	84.30	88.08	56.49%	86.03	57.14%
3	Type 3: Mixed Waste	TPD	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00%	0.00	0.00%
4	Type 4: Tree Waste	TPD	1.54	1.06	1.91	1.38%	0.85	1.12	2.08	1.88	1.30	3.82	2.31	1.91	1.21%	1.67	4.17	3.84	3.23	2.07%	2.22	1.47%
Total.....(1)+(2)+(3)+(4)			139.51	101.11	139.06	100.00%	139.39	176.85	149.14	169.11	160.21	156.98	151.27	157.56	100.00%	164.02	150.65	153.11	155.93	100.00%	150.61	100.00%

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

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
1B Output Products:																						
1	Organic Fraction	TPD	71.44	54.48	69.78	50.18%	71.87	86.85	74.64	82.39	80.51	74.98	76.23	78.21	49.64%	79.16	75.73	75.64	76.84	49.28%	75.03	49.83%
Inorganic Fraction:																						
Recyclables																						
	TPD	9.64	7.69	9.96	7.16%	9.84	12.99	11.12	12.63	11.47	11.46	10.47	10.47	11.42	7.25%	11.06	10.62	11.73	11.14	7.14%	10.85	7.20%
	RDF	TPD	55.15	35.43	55.06	39.59%	54.53	71.94	59.11	68.90	63.36	64.47	60.13	63.21	40.11%	69.57	54.94	57.27	60.59	38.86%	59.64	39.60%
	Bulking Material	TPD	1.74	1.25	1.78	1.28%	2.30	2.43	2.19	2.27	1.99	2.25	2.13	2.22	1.41%	2.57	2.31	2.39	2.42	1.55%	2.10	1.39%
	Inert	TPD	0.00	1.20	0.56	0.40%	0.00	1.53	0.00	1.04	1.58	0.00	0.00	0.59	0.38%	0.00	2.88	2.24	1.71	1.09%	0.77	0.51%
3	Tree Waste	TPD	1.54	1.06	1.91	1.38%	0.85	1.12	2.08	1.88	1.30	3.82	2.31	1.91	1.21%	1.67	4.17	3.84	3.23	2.07%	2.22	1.47%
Total.....(1)+(2)+(3)			139.51	101.11	139.06	100.00%	139.39	176.85	149.14	169.11	160.21	156.98	151.27	157.56	100.00%	164.02	150.65	153.11	155.93	100.00%	150.61	100.00%

2 RECYCLABLES:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
1	Glass	Kg	152	120	173		180	176	176	184	175	230	164	184		227	220	209	219		186	
2	Aluminum	Kg	110	90	105		125	123	103	134	127	107	149	124		97	117	75	96		108	
3	Metal	Kg	248	170	251		249	351	221	251	238	260	223	256		260	264	284	269		261	
4	Tetra Pack	Kg	69	70	90		69	158	88	134	159	153	89	121		114	132	90	112		113	
5	Hard Plastic	Kg	262	100	221		152	211	206	284	159	184	164	194		211	234	239	228		213	
6	PET	Kg	166	170	233		263	211	279	167	207	214	268	230		276	234	269	260		237	
7	Mixed Plastic	Kg	8,554	6,873	8,773		8,686	11,598	9,912	11,388	10,281	10,185	9,295	10,192		9,741	9,316	10,449	9,835		9,616	
8	Thermocol + Styrofoam	Kg	83	100	110		111	158	132	84	127	123	119	122		130	103	119	117		116	
9	Cloth + Rags + Textiles	Kg	1,366	810	1,084		956	1,318	1,147	1,522	1,192	1,317	998	1,207		1,575	835	806	1,072		1,091	
10	Leather + Rexine + Rubber	Kg	1,090	810	1,031		997	879	1,044	1,338	906	965	1,043	1,025		1,266	850	1,403	1,173		1,088	
11	Paper + Cardboard	Kg	869	680	859		956	1,142	897	1,171	1,033	950	894	1,006		1,088	1,025	985	1,033		964	
12	Coconut	Kg	869	570	925		1,344	1,283	1,294	1,104	953	1,302	1,236	1,217		1,477	1,289	1,403	1,390		1,139	

- # 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	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
3.1 Biogas Gensets:																						
1	Biogas Genset-I: Running Time	hr	17.69	21.97	20.74		18.94	21.85	21.13	17.53	17.46	22.73	18.70	19.76		22.03	21.47	19.06	20.85		20.54	
2	Biogas Genset-I: Energy Generation	kW.hr	3,177	3,734	3,611.00		3,440	4,015	3,664	3,124	3,069	3,909	3,377	3,514.00		3,707	3,658	3,247	3,537.33		3,580.75	
3	Biogas Genset-II: Running Time	hr	21.86	16.74	20.86		18.83	22.52	19.34	21.86	21.59	17.83	22.10	20.58		20.30	18.82	17.71	18.94		20.29	
4	Biogas Genset-II: Energy Generation	kW.hr	3,979	3,018	3,732.86		3,290	4,043	3,340	3,993	3,620	3,037	3,855	3,596.86		3,484	3,269	3,193	3,315.33		3,562.64	
Total.....(1)+(2)+(3)+(4)			7,156	6,752	7,344		6,730	8,058	7,004	7,117	6,689	6,946	7,232	7,111		7,191	6,927	6,440	6,853		7,143	
3.2 Electricity Generation:																						
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	0.40	0.40	0.40		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40		0.40	0.40	0.40	0.40		0.40	
2	Biodegradable Waste	TPD	71.44	54.48	69.78		71.87	86.85	74.64	82.39	80.51	74.98	76.23	78.21		79.16	75.73	75.64	76.84		75.03	
3	Electricity Generation = 100 * ((A2 ÷ A1) + (A4 ÷ A3)) ÷ 1000 ÷ 1B.1	kW	362	350	353		356	363	346	361	343	342	355	352		340	344	351	345		350	
4	Electricity Generation	MW/100 MT	0.60	0.64	0.60		0.59	0.61	0.58	0.60	0.57	0.57	0.59	0.59		0.57	0.57	0.58	0.58		0.59	

4 BIOGAS FLARE:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
1	Operation Time	hr/day	0.000	0.400	0.06		1.800	2.717	2.250	2.767	0.817	0.467	2.500	1.90		0.250	4.633	0.250	1.71		0.98	

5 EFFLUENT TREATMENT PLANT:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average		22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average		29-Mar	30-Mar	31-Mar	Weekly Average		Monthly Average	
5.1 Raw Effluent Quality:																						
1	Flow	m ³ /day	89.83	90.57	73.67		53.76	77.50	77.50	96.37	97.08	92.80	51.44	78.06		57.32	43.29	96.47	65.69		77.90	
2	pH	---	6.06	7.18	6.72		7.95	7.55	7.17	7.88	7.94	6.36	7.20	7.44		7.65	6.50	7.72	7.29		7.01	
3	Biochemical Oxygen Demand (BOD5)	mg/l	2,489	1,830	2,115		2,084	2,177	1,646	2,208	2,463	2,191	2,365	2,162		1,890	2,007	1,839	1,912		2,039	
4	Chemical Oxygen Demand (COD)	mg/l	5,600	4,795	5,749		5,002	5,225	5,284	7,684	6,502	5,149	7,142	5,998		5,991	5,198	3,972	5,054		5,534	
5	Total Suspended Solids (TSS)	mg/l	5,127	3,203	4,323		4,522	5,203	3,572	4,416	4,236	3,834	3,642	4,204		3,232	4,937	4,175	4,115		4,146	
6	Total Dissolve Solids (TDS)	mg/l	1,381	1,424	1,501		1,637	1,609	1,337	1,670	1,723	1,537	1,764	1,611		1,549	1,436	1,358	1,448		1,533	
5.2 Treated Effluent Quality:																						
1	pH	---	7.03	6.64	7.02		6.55	7.06	7.44	6.53	7.09	7.42	7.21	7.04		7.49	6.90	6.75	7.05		6.99	
2	Biochemical Oxygen Demand (BOD5)	mg/l	6	5	7		8	8	5	6	6	5	9	7		8	8	8	8		7	
3	Chemical Oxygen Demand (COD)	mg/l	77	85	81		55	84	51	88	58	62	63	66		62	90	89	80		73	
4	Total Suspended Solids (TSS)	mg/l	7	6	8		9	9	6	7	7	6	10	8		9	9	9	9		8	
5	Total Dissolve Solids (TDS)	mg/l	1,450	1,438	1,575		1,735	1,657	1,404	1,720	1,792	1,552	1,852	1,673		1,719	1,580	1,494	1,598		1,632	

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

6 DISPOSAL OF INERT:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average	29-Mar	30-Mar	31-Mar	Weekly Average	Monthly 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	137.97	100.05	137.15	138.54	175.73	147.06	167.23	158.91	153.16	148.96	155.66	162.35	146.48	149.27	152.70	148.40
3	Inert Fraction	TPD	0.00	1.20	0.56	0.00	1.53	0.00	1.04	1.58	0.00	0.00	0.59	0.00	2.88	2.24	1.71	0.77
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	1.20%	0.44%	0.00%	0.87%	0.00%	0.62%	0.99%	0.00%	0.00%	0.36%	0.00%	1.97%	1.50%	1.16%	0.52%

7 HOUSEKEEPING:

Sr. No.	Description	Unit	20-Mar	21-Mar	Weekly Average	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	Weekly Average	29-Mar	30-Mar	31-Mar	Weekly Average	Monthly 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