



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पर्यावरण, वन एवं जलवायु परिवर्तन
मंत्रालय

MINISTRY OF ENVIRONMENT, FOREST &
CLIMATE CHANGE

SPEED POST

क्षेत्रीय कार्यालय, पश्चिम क्षेत्र,
Regional Office, Western Region,
"केन्द्रीय पर्यावरण भवन"
"Kendriya Paryavaran Bhavan"
लिंक रोड नं०-3/Link Road No. 3
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File File No.: 5-125/2008 (पर्या) 1952

Dated: 30.08.2017

प्रति,

श्री ग्यानेश भारती,
जॉइंट सेक्रेटरी,
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
इंदिरा पर्यावरण भवन,
जोर बाग रोड, अलीगंज,
नई दिल्ली - 110003

Shri Gyanesh Bharti,
Joint Secretary,
Ministry of Environment, Forest and
Climate Change
Indira Paryavaran Bhawan
Jorbagh Road, Aliganj
New Delhi-110003

विषय : मेसर्स सौराष्ट्र एन्वायरो प्रोजेक्ट्स प्राइवेट लिमिटेड द्वारा गुजरात राज्य में स्थित सौराष्ट्र और कच्छ क्षेत्र के लिए आम खतरनाक अपशिष्ट के उपचार के भंडारण और निपटान की सुविधाओं के विकास के लिए पर्यावरणीय स्वीकृति।

Sub : Environmental Clearance for the development of common hazardous waste treatment storage and disposal facilities for Saurashtra and Kutch region in the State of Gujarat by M/s Saurashtra Enviro Projects Private Limited-regarding.

संदर्भ: मंत्रालय का पत्र क्रमांक. 10-45/2007-IA-III दिनांक 15.04.2008

Ref: Ministry's letter no 10-45/2007-IA-III dated: 15.04.2008

महोदय,

मंत्रालय के उपरोक्त संदर्भित पत्रांकों के संदर्भ में उक्त परियोजना को पर्यावरणीय दृष्टिकोण से अनुमति देते समय अनुबद्ध शर्तों के अनुपालन की अनुवीक्षण प्रतिवेदन (मॉनिटरिंग रिपोर्ट) एतद् द्वारा संलग्न कर प्रेषित है। अनुवीक्षण प्रतिवेदन मंत्रालय की वेबसाइट पर भी अपलोड की जा रही है।

2.0 यह सक्षम प्राधिकारी द्वारा अनुमोदित है।

भवदीय

(डॉ. एच.वी.सी. चारी गून्टुपल्ली)
वैज्ञानिक 'डी'

संलग्न: उपरोक्तानुसार

प्रतिलिपि:

1. श्रीमति रीता खन्ना, निदेशक, (अनुवीक्षण सैल), पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, इंदिरा पर्यावरण भवन, जोर बाग रोड, अलीगंज, नई दिल्ली-110003 की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।
Smt. Reeta Khanna, Director, Monitoring Cell, Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, NewDelhi-110003 for kind information please.
2. श्री कुशल वशिष्ठ, डायरेक्टर, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, इंदिरा पर्यावरण भवन, जोर बाग रोड, अलीगंज, नई दिल्ली-110003 की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।
Shri Kushal Vashist, Director, Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, NewDelhi-110003 for kind information please.
3. साइट प्रभारी, मेसर्स सौराष्ट्र एन्विरो प्रोजेक्ट प्रा. लि. के.जी. चैम्बर्स, उधना दरवाजा, रिंग रोड, सुरत, गुजरात- 395002 की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।
The Site Incharge, M/s Saurashtra Enviro Projects Pvt Ltd, K.G. Chambers, Udhana Darwaja, Ring Road, Surat, Gujarat- 395 002- for kind information please.

भवदीय

Gurdeep

(डॉ. एच.वी.सी. चारी गून्टुपल्ली)
वैज्ञानिक 'डी'

Monitoring the Implementation of Environment Safeguards

Ministry of Environment & Forest

Western Region, Regional Office, Bhopal

MONITORING REPORT

PART – I

DATA SHEET

1.	Project type: River-valley/ Mining/ Industry/ Thermal/ Nuclear/ Other (specify)	:	Other – Infrastructure facility (Integrated Common Hazardous Waste Management Facility)
2.	Name of the Project	:	Development of Common Hazardous Waste Treatment Storage and disposal facilities for Saurashtra and Kutch Region of Gujarat by M/s. Saurashtra Enviro Projects Private Limited
3.	Clearance letter(s)/ OM No. and date	:	Letter No. 10-45/2007-IA-III dated 15 th April 2008.
4.	Locations		
	a) District (s)	:	Kutch
	b) State (s)	:	Gujarat
	c) Location		
	Latitude	:	23°20'38.28"N
	Longitude	:	70°36'46.74"E
5.	Address for correspondence		
	a) Address of the Concerned Project Chief Engineer (with pin code and telephone/ telex/ fax number)	:	Mr. Manoj Patel Saurashtra Enviro Projects Private Limited, 3 rd Floor, KG chambers, Above Karnataka Bank, Opp. Gujarat Samachar Press, Udhana Darwaja, Ring road, Surat – 395002 (M) 9924445318
	b) Address of the Executive Project Engineer/ Manager (with Pin code & telephone/ telex/ fax number)	:	Mr. T Murugesh Saurashtra Enviro Projects Private Limited, Survey no. 415, 417 & 418, Village: Juna Kataria, Lakadia, B/h GAIL Pump, Samakhiyali – Radhanpur Highway, Taluka: Bhachau, Dist: Kutch (M) 9924449231
6.	Salient features		
	a) Of the project	:	Salient Feature of Secured Landfill site ➤ Landfill design is approved by Gujarat Pollution Control Board ➤ Design of land fill validated by Regional Engineering College, Surat

			<ul style="list-style-type: none"> ➤ Two liner system as per CPCB guidelines has been installed ➤ Site was selected as per the site selection criteria specified in CPCB guidelines <p>Salient Features of Incineration</p> <ul style="list-style-type: none"> ➤ Recovery of waste heat by installing liquid quenchers along with incinerator ➤ Incineration design is strictly in line with CPCB guidelines. ➤ Entire equipment are provided with PLC SCADA with process safety interlock system. ➤ Zero Liquid Discharge plant
	b) Of the Environment Management Plan :		<ul style="list-style-type: none"> ➤ Online stack monitoring ➤ Comprehensive environment monitoring plan as per CPCB protocol, CPCB guidelines, CCA and EC condition ➤ Series of Air pollution control measures like air quenching, water quenching, cyclone, multicyclone, 3 stage scrubbing unit, mist eliminator are provided. ➤ Efficient leachate collection system and disposal of leachate through forced evaporation system
7.	Break up of the project area		
	a) Submergence area: forest and non forest :		None
	b) Others :		100 % land for Integrated Common Hazardous Waste Management Facility
p8.	<p>Break up of the project affected population with enumeration of those losing houses/ dwelling units only agricultural land only. Both dwelling units and agricultural land and landless labourers/ artisans:</p> <p>a) SC, ST/ Adivasi</p> <p>b) Others</p> <p>(Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)</p>	:	As land is Non Agricultural land, there is no requirement of any re habitation and resettlement of the population. Further nearest village is located at a distance of 2.9 km from the site

9.	Financial details: Project cost as originally planned and subsequent revised estimates and the year of price reference	:	Project Cost was Planned INR 52 Cr
	a) Allocation made for environmental management plans with item wise and year wise break up	:	As Below
	b) Benefit cost ratio/ internal rate of return and the year of assessment	:	
	c) Whether this includes the cost of environmental management as shown in the above	:	
	d) Actual expenditure incurred on the project so far	:	
	e) Actual expenditure incurred on the environmental management plans so far	:	

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Insurance – PLI	13,125	99,700	117,978	136,730	72,344	30,559
Monitoring of Soil, Water	1,248,372	3,225,734	4,060,349	5,500,903	8,233,200	8,364,788
Electrical Resistancy	12,133	32,922	20,787	89,100	91,600	91,600
Lechate Collection & Disposal Cost	1,435,800	6,659,100	8,420,895	2,418,805	23,888,747	20,204,535
TOTAL	2,709,430	10,017,456	12,620,009	8,145,538	32,285,891	28,691,482
Landfill Revenue	25,448,727	158,069,217	289,475,389	241,424,950	509,601,018	486,578,655
Landfill Costs:						
Waste Disposal Exp	16,630,669	23,136,323	27,586,488	22,087,851	33,037,585	23,081,813
Plant related expenses	56,511,720	229,473,740	299,782,584	339,764,895	417,716,574	324,263,636
Landfill Construction & Capping Cost	44,442,641	5,232,300	8,496,765	111,275,990	143,263,181	90,059,837
Post Closure provision & escrow	1,272,436	7,903,461	14,473,769	12,071,248	25,480,051	24,328,933
TOTAL	118,857,466	265,745,824	350,339,606	485,199,984	619,497,391	461,734,219
Project Cost – Actual	361,134,681	544,164,782	592,544,867	827,492,780	1,117,482,556	1,165,567,269

10. Forest land requirement

	a) The status of approval for diversion of forest land for non – forestry use	:	No forest land is involved in the proposed project															
	b) The status of clearing felling	:																
	c) The status of compensatory afforestation, if any	:																
	d) Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	:																
11	The status of clear feeling in non forest areas (such as submergence area or reservoir, approach roads), if any with quantitative information required	:	No forest land is involved in the proposed project															
12	Status of construction (actual &/ or planned) a) Date of commencement (actual &/ or planned) b) Date of completion (actual &/ or planned)	:	<table><tr><td>Facility</td><td>Date of operation</td></tr><tr><td>1st cell</td><td>November 2008</td></tr><tr><td>2nd cell</td><td>April 2012</td></tr><tr><td>3rd cell</td><td>January 2015</td></tr><tr><td>4th cell</td><td>November 2016</td></tr><tr><td>Incinerator 1</td><td>October 2009</td></tr><tr><td>Incinerator 2</td><td>April 2012</td></tr></table>		Facility	Date of operation	1 st cell	November 2008	2 nd cell	April 2012	3 rd cell	January 2015	4 th cell	November 2016	Incinerator 1	October 2009	Incinerator 2	April 2012
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4 th cell	November 2016																	
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Incinerator 2	April 2012																	
13	Reason for delay if the project is yet to start	:	The project is in operation. The expansion is required on the permitted capacity will be exhausted within the next 4-5 months															
14	Date of site visits a. The dates on which the project was monitored by the RO on previous occasions, if any b. Date of site visits for this monitoring report	:	No 30.06.2017															
15	Details of correspondence with PA for obtaining act on plants/ information on status of compliance to safeguards other than the routine letters for logistics support for site visits																	
	Date	Letter from RO	Date	Letter from Project Authority (PA)														
	01.05.2017:	Comprehensive CR requested vide letter dated 01.05.2017	08.05.2017:	reply submitted vide letter dated 08.05.2017														
	30.06.2017:	Revised CR sought during the discussion at the time of Site viist	21.07.2017:	Revised CR submitted vide letter dated 17.07.2017														
	17.08.2017:	Addl. Information sought by e-mail	17.08.2017:	Addl. Information received by e-mail														

PART – II & III
DESCRIPTIVE REPORT ON STATUS OF COMPLIANCE TO CONDITIONS OF
ENVIRONMENTAL CLEARANCE GRANTED BY MOEF&CC, DELHI

- 1) **Compliance Status of Environmental Clearance issued by MoEF & CC, New Delhi vide letter F. No. 10-45/2007-IA-III, DATED 15TH APRIL, 2008**
(Details of the project: Development of common hazardous waste treatment storage and disposal facilities for Saurashtra and Kutch region in Gujarat by M/s. Saurashtra Enviro Projects Pvt. Ltd.)

MOEF LETTER NO. 10-45/2007-IA-III, DATED 15 TH APRIL 2008																																	
Sr. No.	Condition	Compliance Status																															
1	<p>The proposal involves development of a site over 62 acres which will be able to treat waste of 60000 MTPA for a period of 20 Years. Out of 62 acres, 22 acres is already procured and rest is under negotiation. This is proposed to be developed in 3 phase</p> <table> <tr> <td>Infrastructure</td> <td>1.5 acres</td> </tr> <tr> <td>Secured landfill</td> <td>52 acres</td> </tr> <tr> <td>Internal road</td> <td>3 acres</td> </tr> <tr> <td>ETP</td> <td>0.5 acres</td> </tr> <tr> <td>Green belt</td> <td>5.5 acres</td> </tr> </table>	Infrastructure	1.5 acres	Secured landfill	52 acres	Internal road	3 acres	ETP	0.5 acres	Green belt	5.5 acres	<p>Project proponent (PP) vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>The total land procured till date is 62.5 acres. The project is in third phase. The development of land is as given below</p> <table> <tr> <th>Facility</th> <th>Land area granted as per EC (Acres)</th> <th>Actual land area break up (Acres)</th> </tr> <tr> <td>Infrastructure</td> <td>1.5</td> <td>1.5</td> </tr> <tr> <td>Secured Landfill</td> <td>52</td> <td>31.2</td> </tr> <tr> <td>Internal Road</td> <td>3</td> <td>3</td> </tr> <tr> <td>ETP</td> <td>0.5</td> <td>0</td> </tr> <tr> <td>Green Belt</td> <td>5.5</td> <td>5.5</td> </tr> <tr> <td>Total area</td> <td>62.5</td> <td>41.2</td> </tr> </table> <p>In view of the information furnished by the PP, the condition is considered complied subject to needful amendment in EC with respect to non availability of ETP.</p> <p>COMPLIED SUBJECT TO CONDITION</p>	Facility	Land area granted as per EC (Acres)	Actual land area break up (Acres)	Infrastructure	1.5	1.5	Secured Landfill	52	31.2	Internal Road	3	3	ETP	0.5	0	Green Belt	5.5	5.5	Total area	62.5	41.2
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Total area	62.5	41.2																															
2.	Following facilities are proposed to be	PP vide letter dated 17.07.2017 received on																															

<p>incorporated in the project.</p> <p>1. Secured Landfill: 1200000MT</p> <p>2. Incineration: 10 Million Kcal/hr</p> <p>3. Temporary Storage: 10000 MT</p>		<p>21.07.2017 submitted the following:</p> <ul style="list-style-type: none"> • Secured landfill 1st cell having capacity of 1,20,000 MT had been operative during November 2008 to May 2012 and then after it was permanently capped having final vegetation on the top of the cap. • Secured landfill 2nd cell having capacity 2,75,000 MT had been operative from April 2012 to April 2015 and then after was permanently capped having final vegetation on the top of the cap in Aug-2016. • Secured landfill 3rd cell having capacity 4,50,000 MT had been operative during January 2015 to April 2017 and capping is under installation since Jun-17. • Secured landfill 4th cell having capacity 355000 MT is operative since Nov-16. • 1st incinerator having capacity 2.5 Million Kcal/hr is operational from October 2009. • 2nd incinerator having capacity of 5 Million Kcal/Hr is operational from March 2012. <table border="1" data-bbox="901 1366 1444 1601"> <tr> <td>Temporary storage for liquid waste</td><td>:</td><td>7870 MT</td></tr> <tr> <td>Temporary storage for semi solid & solid</td><td>:</td><td>2500 MT</td></tr> <tr> <td>Total</td><td>:</td><td>10,370 MT</td></tr> </table> <ul style="list-style-type: none"> • Temporary storage for monsoon and transition phase is provided having capacity upto 2500MT. • 2 nos. of dedicated storage for incinerable waste having size 70 m x 20 m each and constructed in line with relevant guidelines are operational. • Liquid storage tank of 870 KL capacity is provided for Incineration 	Temporary storage for liquid waste	:	7870 MT	Temporary storage for semi solid & solid	:	2500 MT	Total	:	10,370 MT
Temporary storage for liquid waste	:	7870 MT									
Temporary storage for semi solid & solid	:	2500 MT									
Total	:	10,370 MT									

	<p>4. ETP:100 m³/day</p>	<p>plant</p> <ul style="list-style-type: none"> • Total Storage for non-odorous inorganic mix aqueous waste is developed having capacity 7000 KL for Forced Evaporation plant • Landfill leachate and other wastewater such as scrubber bleed, tyre wash water, etc. that are generated are treated by forced evaporation system. <p>The ETP was proposed for treatment of effluent generated in that region. However we drop the proposal later.</p> <p>The total capacity of Forced Evaporation system is 500 KL/day. The CC&A copy of same is made available. After complete evaporation, no water is left over except salts. Salt generated is sent to captive landfill facility.</p> <p>In view of the information furnished by the PP, the condition is considered complied subject to production of documentary evidences intimating MoEF&CC about the dropping of ETP (100 m³/day) and implementation of forced evaporation system (500 m³/day i.e., higher capacity). Needful amendment in EC, if any may also be submitted.</p> <p>COMPLIED SUBJECT TO CONDITION</p>
<p>3.</p>	<p>Utilities to be provided at the CHWTSDF are main gate and security cabin, office building along with laboratory building, weight bridge, intermediate storage, internal roads, wheel wash facility, secured Landfill facility, leachate collection system, green belt, shredder/crusher, solidification/ stabilization unit and runoff diversion drain. The main purpose to establish intermediate storage is that it would be utilized during monsoon and temporary storage</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Following facilities and utilities are developed,</p> <ul style="list-style-type: none"> • Main gate – 2 nos • Security cabin, • Office building along with laboratory building, • Weigh bridge, • Intermediate storage,

of waste until it is analyzed and the compatibility of the same is finalized before land filling.

It is proposed to develop effluent treatment plant of 100 m³/day capacity. The treated waste water meeting the irrigation norms will be utilized for green belt development 10 acres on area.

The wastes are either disposed of directly into the landfill and/or after the treatment like solidification and stabilization, segregation, pyrolysis process etc.

The leachate sumps of RCC will be made of required size and depth based on the estimated leachate generation and RL of leachate collection layer.

- Internal roads,
- Wheel wash facility,
- Secured Landfill facility,
- Leachate collection system,
- Green belt,
- Solidification/ stabilization unit
- Runoff diversion drain
- Green belt development
- monitoring wells
- Spray dryer installed for separating salts from mix aqueous waste
- Shredder/ crusher for pre processing of hazardous waste

Forced Evaporation System is developed as effluent treatment plant. Total green belt provided is 13.06 acres (including capping area).

The waste meeting direct landfill criteria as per the CPCB guidelines are disposed directly to secured landfill and the wastes not meeting the CPCB's direct landfill criteria, are disposed in to secured landfill after predefined treatment path such as solidification, stabilization, incineration etc.

Leachate sump of RCC with below mentioned dimensions are constructed based on the leachate generation and RL of leachate collection layer for each of the existing secured landfill.

Cell No.	Nos	L	B	Effective depth	Volume
Cell 1	1	Dia. 2 mtr.		3	9.42
Cell 2	1	2.15	2.15	3.5	16.18

	Cell 3	1	3	3	2.7	24.30
		1	3	3	3.45	31.05
	Cell 4	2	3	3	2.9	26.10
		2	3	3	3.6	32.40

The leachate so collected will be transferred by pumping to the leachate treatment.

Six number of monitoring wells per cell i.e. 3 in the upstream and 3 in the downstream of ground water flow direction covering 3 ground water strata will be provided.

Expected cost of the project is Rs. 52 crores.

Public hearing has been carried out for the project on 4.1.2008.

Structural details of leachate well is also made available.

Leachate accumulated in the respective sumps are pumped out and stored in storage tanks and finally treated through forced evaporation system. Residue from Forced Evaporation System qualifies for direct landfilling. Hence the same is disposed in active captive secured landfill cell

Six number of monitoring wells are installed covering all the cell. Location map is also furnished. Based on the geo hydrological study conducted in Dec 2016, the ground water flow is radial. Hence these wells covers upstream and downstream conditions. Geology of site indicates that after 2 m depth there is sedimentary rock upto depth of 50 m. The water bearing zone is at depth of 15 – 22 m. There is no specific other water bearing zone available.

MOM submitted to MOEF. The major highlights of PH are as noted below

PH dated 04.01.2008

Total no. of people who presented opinion during PH: 3

Shri Dinesh Agrawal and Shri Balwant Solanki welcomed the project

		<p>Shri H. S Mehta inquired about the capacity of TSDF and each plant.</p> <p>The copy of MOM of PH was submitted to RO MoEF with our second submission vide letter no. SEPPL/CORR/2017/03 dated 08.05.2017</p> <p>In view of the information furnished by the PP, and due to following facts:</p> <ol style="list-style-type: none"> 1. Six numbers of monitoring wells are installed covering the entire cell instead of each cell. 2. Forced evaporation system was put in place instead of ETP. <p>the condition is considered partially complied.</p> <p>PARTLY COMPLIED</p>
4.	<p>The activity is covered under item 7(i) of the Environmental Impact Assessment Notification, 2006 and falls under category 'B'. The proposal was considered by Expert Committee on its meeting held on 19th, 20th, & 21st July, 2007 and 27th and 28th February, 2008 and has recommended. The environmental clearance is hereby accorded under Environmental Impact Assessment Notification, 2006 for the said project subject to the implementation of the following condition.</p>	----
A. Specific Conditions		
(I)	<p>No Objection Certificate from the Gujarat State Pollution Control Board shall be obtained before initiating the project</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>NOC Obtained vide Letter No. GPCB/CCA/KUTCH/550/9642, dated 02th April, 2008 before initiating the project.</p> <p>The copies of No Objection Certificate from GPCB are made available.</p> <p>In view of the information furnished, the condition is considered complied.</p> <p>COMPLIED</p>

(II)	<p>The M/s Saurashtra Enviro Projects Private Limited shall implement all the measures and commitments that have been provided by them in the clarification letter dated 18.3.2008 to the Ministry.</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Company has implemented the measures and commitments as given in the clarification letter dated 18.03.2008</p> <p>The compliance to the letter and the copy of letter is also made available.</p> <p>In view of the submission by the PP and the detailed compliance status furnished w.r.t measures and commitments that have been vide letter dated 18.3.2008, the condition is considered complied.</p> <p>COMPLIED</p>
(III)	<p>No ground water shall be tapped for project</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>No ground water is tapped for the project.</p> <p>Water requirement is fulfilled through GWIL (Gujarat Water Infrastructure Limited) and GWSSB (Gujarat Water Supply and Sewerage Board) and local sources through tanker</p> <p>The copy of water allocation is also made available.</p> <p>The summary of average water requirement for last 6 months is also furnished.</p> <p>As rainy days are less in this area, water is brought from outside for plantation.</p> <p>In view of the information furnished, the condition is complied.</p> <p>COMPLIED</p>
(IV)	<p>The proponent should ensure that the TSDF fulfils all the provisions of Hazardous Wastes (Management and Handling) Rules, 2003 and the design of landfill is as per the guidelines of CPCB with proper leachate collection arrangement</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Landfill cell had been designed as per the guidelines of CPCB and approved by state pollution control board vide its letter no GPCB/HAZ-CCA-Kutch- 550/ 21893 dated 10/09/2008.</p> <p>The copy of same is furnished.</p>

		<p>In view of the information furnished, the condition is complied subject to fulfilment of all the provisions of Hazardous Wastes (Management and Handling) Rules, 2003 and the design of landfill is as per the guidelines of CPCB with proper leachate collection arrangement.</p> <p>COMPLIED SUBJECT TO CONDITION</p>
(V)	The proponent should ensure that the transportation of the Hazardous wastes to the TSDF conforms to the norms laid down in the Hazardous Wastes (Management and Handling) Rules, 2003.	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>The transportation of Haz. Waste is carried out as per the 'Guidelines for Transportation of Hazardous Waste' issued by CPCB. All hazardous waste carrying vehicles follow XGN system developed by Gujarat Pollution Control Board.</p> <p>In view of the information furnished, the condition is complied subject to conforming to the norms laid down in the Hazardous Wastes (Management and Handling) Rules, 2003.</p> <p>COMPLIED SUBJECT TO CONDITION</p>
(VI)	The TSDF should only handle the waste generated from the member units	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Presently Haz. Waste is accepted from member units only and who have registered through GPCB XGN. 2500 industrial units have taken membership upto March 2017.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
(VII)	Forced evaporation should be provided to treat the effluent / Leachate generated from the landfill	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Forced evaporation system provided to treat leachate generated from landfill.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
(VIII)	A leachate collection system should be	PP vide letter dated 17.07.2017 received on

	<p>provided to collect the leachate at a collection point. Treatment facility for the collected leachate should be provided. The treated water shall be reused as far as possible in the project.</p>	<p>21.07.2017 submitted the following:</p> <p>Leachate collection and removal system are installed at the bottom of the landfill and the collected leachate is accumulated in the collection point. Leachate accumulated in the respective sumps are pumped out and stored in storage tank and finally treated through forced evaporation system. The PP in reply to condition nat S.No. 2 (4) has also submitted that no water is left over, except salts as a result of complete evaporation. The left over salts were sent to captive landfill facility.</p> <p>In view of the above, the condition is considered complied.</p> <p>COMPLIED</p>
(IX)	<p>Project proponent should obtain necessary Authorization /Consent from local Pollution Control Board.</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Obtained Consolidated Consent & Authorization from Gujarat Pollution Control Board vide order no AWH – 60703 dated 18/11/2013 valid upto 05/11/2018</p> <p>The copy of same is made available.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
(X)	<p>The proponent should obtained necessary clearance from the Ground Water Authority before initiating the project.</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Not applicable since no ground water is being utilized.</p> <p>In view of the submission by the PP and the fact that condition mandates obtaining a clearance from Ground Water Authority before initiating the project as the substantial leachate generated has potential to contaminate ground water table, the condition is considered not complied.</p> <p>NOT COMPLIED</p>
(XI)	<p>The depth of the landfill should be</p>	<p>PP vide letter dated 17.07.2017 received on</p>

	decided based on the ground water level at the site.	<p>21.07.2017 submitted the following:</p> <p>Depth of landfill cell is maintained as per the guidelines. 1st groundwater bearing zone at the site occurs in the depth range of 15-20 m. The bottom most part of landfill cell is up to 10 m from the ground level.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
(XII)	Project proponent should ensure that wastes with organic content >5% of degradable organic matters are not disposed into the landfill. However, required arrangement for collection, treatment and disposal of gases from the Landfill if any, should be provided.	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>The same is being done as per CPCB Guidelines. GPCB has been informed regularly about the quantity of such waste received.</p> <p>The compliance details furnished by the PP are found inadequate and incomplete. In absence of vital inputs like the present mode of treatment and disposal of wastes (with more than 5% organic content) received by the PP as well as the current arrangement for collection, treatment and disposal of gases from the Landfill, if any, the condition is considered almost not complied till submission of requisite details.</p> <p>ALMOST NOT COMPLIED</p>
(XIII)	Project proponent should prepare and implement an On Site Emergency Management Plan.	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Onsite Emergency Plan is prepared and the copy of same is made available</p> <p>The details of mock drills done based on onsite emergency plan in last 6 – 12 months is also furnished. The last mock drill done was on March 2017.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
(XIV)	Project proponent should carryout	PP vide letter dated 17.07.2017 received on

	periodical groundwater /soil monitoring in and around the site to check the contamination including TCLP test for heavy metals.	21.07.2017 submitted the following: The average – min - max of results is as given below			
	Ground water				
	Parameters	Unit	Upstream – L1		
			Min	Max	Average
	pH	--	7.48	8.32	8.04
	Temperature	° C	25	30	27.17
	Colour	--	ND	ND	ND
	Turbidity	--	ND	ND	ND
	Electrical conductivity	µS/cm	2092	2532	2343.00
	Total hardness	mg/L	336	590	468.33
	Total alkalinity	mg/L	286	470	396.83
	TSS	mg/L	ND	ND	ND
	TDS	mg/L	1046	1385	1194.17
	O&G	mg/L	ND	ND	ND
	Total phosphate	mg/L	0.28	0.42	0.35
	Cyanide	mg/L	ND	ND	ND
	Flouride	mg/L	ND	ND	ND
	BOD	mg/L	ND	ND	ND
	COD	mg/L	6	8	6.67
	Ammonical nitrogen	mg/L	ND	ND	ND
	Chloride	mg/L	555	658	619.17
	Sulphate	mg/L	230	383	299.83
	Hexavalent chromium	mg/L	ND	ND	ND
	Nitrate	mg/L	4.64	7.65	6.37
	Nitrite	mg/L	ND	ND	ND
	Total organic carbon	mg/L	1.7	2.6	2.03

Total kjeldal nitrogen	mg/L	ND	ND	ND
Total chromium	mg/L	ND	ND	ND
Copper	mg/L	ND	ND	ND
Lead	mg/L	ND	ND	ND
Nickel	mg/L	ND	ND	ND
Zinc	mg/L	ND	ND	ND
Cadmium	mg/L	ND	ND	ND
Manganese	mg/L	ND	ND	ND
Cobalt	mg/L	ND	ND	ND
Mecury	mg/L	ND	ND	ND
Insecticides	mg/L	ND	ND	ND

Parameters	Unit	Downstream – L2		
		Min	Max	Average
pH		7.45	8.37	7.89
Temperature	° C	25	30	27.1667
Colour		ND	ND	ND
Turbidity		ND	ND	ND
Electrical conductivity	μS/cm	2050	2300	2192
Total hardness	mg/L	248	520	403.6
Total alkalinity	mg/L	300	518	439
TSS	mg/L	ND	ND	ND
TDS	mg/L	1025	1150	1086
O&G	mg/L	ND	ND	ND
Total phosphate	mg/L	0.22	0.36	0.29
Cyanide	mg/L	ND	ND	ND
Flouride	mg/L	ND	ND	ND

BOD	mg/L	ND	ND	ND
COD	mg/L	7	10	8.16
Ammonical nitrogen	mg/L	ND	ND	ND
Chloride	mg/L	500	615	553.5
Sulphate	mg/L	256	400	349.1
Hexavalent chromium	mg/L	ND	ND	ND
Nitrate	mg/L	5.71	11.5	8.17
Nitrite	mg/L	ND	ND	ND
Total organic carbon	mg/L	1.86	2.7	2.23
Total kjeldal nitrogen	mg/L	ND	ND	ND
Total chromium	mg/L	ND	ND	ND
Copper	mg/L	ND	ND	ND
Lead	mg/L	ND	ND	ND
Nickel	mg/L	ND	ND	ND
Zinc	mg/L	ND	ND	ND
Cadmium	mg/L	ND	ND	ND
Manganese	mg/L	ND	ND	ND
Cobalt	mg/L	ND	ND	ND
Mecury	mg/L	ND	ND	ND
Insecticides	mg/L	ND	ND	ND

The detail results are also made available

Soil

The TCLP test of soil is done once in six months the copy of analysis report is also furnished.

In view of the information furnished by the PP and the fact that monitoring was undertaken, but in the absence of comparison of the monitored data with baseline environmental data in the area, contamination due to project activity cannot be ascertained and hence, the condition is considered partly complied.

PARTLY COMPLIED

(XV)	Project proponent should carry out periodical air quality monitoring in and around the site including VOC,HC.	PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following: Periodical air quality monitoring is carried out. The minimum, maximum and average of results is as given below				
Air Quality Monitoring						
Parameters		Unit	Near pond – L1			Permissible limit
			Min	Max	Average	
Wind speed		Km/h	2.8	17.9	8.7	-
Temperature		°C	18	33	27.4	-
Relative humidity		%	12.3		34.9	-
PM10		µg/m ³	63	108	81.9	100
PM 2.5		µg/m ³	29	52	39.3	60
Sox		µg/m ³	12.55	33.03	23.8	80
Nox		µg/m ³	18.54	36.46	27.2	80
Ozone		µg/m ³	6.68	11.76	8.9	180
Ammonia		µg/m ³	21.33	45.49	32.6	400
Lead		µg/m ³	ND	ND	ND	1
Arsenic		ng/m ³	ND	ND	ND	6
Nickel		ng/m ³	1.05	1.33	1.2	20
Carbon monoxide		mg/m ³	1.01	1.18	1.1	4
Benzene		µg/m ³	ND	ND	ND	5
Parameters		Unit	Near Electric room – L2			Permissible limit
			Min	Max	Average	
Wind speed		Km/h	2.8	17.9	8.7	-
Temperature		°C	18	33	27.4	-
Relative humidity		%	12.3	57.2	34.9	-

PM10	$\mu\text{g}/\text{m}^3$	65	129	88.5	100
PM 2.5	$\mu\text{g}/\text{m}^3$	30	58	42.8	60
Sox	$\mu\text{g}/\text{m}^3$	8.37	29.36	22.5	80
Nox	$\mu\text{g}/\text{m}^3$	16.68	35.84	26.6	80
Ozone	$\mu\text{g}/\text{m}^3$	6.43	12.36	9.2	180
Ammonia	$\mu\text{g}/\text{m}^3$	20.92	49.38	32.4	400
Lead	$\mu\text{g}/\text{m}^3$	ND	ND	ND	1
Arsenic	ng/m^3	ND	ND	ND	6
Nickel	ng/m^3	1.04	1.44	1.2	20
Carbon monoxide	mg/m^3	0	1.22	1.2	4
Benzene	$\mu\text{g}/\text{m}^3$	ND	ND	ND	5

Parameters	Unit	Near cell 3 – L3			Permissible limit
		Min	Max	Average	
Wind speed	Km/h	2.8	17.9	8.9	-
Temperature	$^{\circ}\text{C}$	18	33	27.4	-
Relative humidity	%	22	57	37.1	-
PM10	$\mu\text{g}/\text{m}^3$	64	104	86.2	100
PM 2.5	$\mu\text{g}/\text{m}^3$	21	51	42.6	60
Sox	$\mu\text{g}/\text{m}^3$	12.55	33.98	22.6	80
Nox	$\mu\text{g}/\text{m}^3$	17.29	32.75	26.0	80
Ozone	$\mu\text{g}/\text{m}^3$	7.3	11.26	9.2	180
Ammonia	$\mu\text{g}/\text{m}^3$	21.33	44	30.1	400
Lead	$\mu\text{g}/\text{m}^3$	ND	ND	ND	1
Arsenic	ng/m^3	ND	ND	ND	6
Nickel	ng/m^3	1.13	1.49	1.3	20
Carbon monoxide	mg/m^3	0	1	1.0	4

Benzene	$\mu\text{g}/\text{m}^3$	ND	ND	ND	5
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VOC & HC

Parameters	Near pond – L1		
	Min	Max	Average
VOC	ND	ND	ND
Poly aromatic hydrocarbon	ND	ND	ND

Parameters	Near Electric room – L2		
	Min	Max	Average
VOC	ND	ND	ND
Poly aromatic hydrocarbon	ND	ND	ND

Parameters	Near cell 3 – L3		
	Min	Max	Average
VOC	ND	ND	ND
Poly aromatic hydrocarbon	ND	ND	ND

The detail results are also made available

In view of the submission by the PP and max. PM10 concentrations exceeding the stipulated norms, the condition is considered partly complied.

PARTLY COMPLIED

(XVI)	Project proponent should develop green belt all along the periphery of the TSDF with plant species that are significant and used for the pollution abatement.	PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following: Company has developed green belt all along the periphery of TSDF with the following plant species.
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	<table> <tr> <th>Name of tree species</th> <th>Count</th> </tr> <tr> <td>Neem</td> <td>690</td> </tr> <tr> <td>Gulmohar</td> <td>570</td> </tr> <tr> <td>Other Variety</td> <td>90</td> </tr> </table> <p>Total green belt as per EC: 5.5 Acres</p> <p>Total green belt provided at site: 5.5 acres</p> <p>Total area of landfill cells converted into green belt: 7.56 acres</p> <p>After the closure of the landfill cell 1 & 2, the complete area is covered with grass in form of lawn and shrubs.</p> <p>% Plant survival: 60 % for existing plants.</p> <p>Proposed plantation for 17-18: Approx 1500 plants. We have already done plantation of 1000 trees in near by village area during Environment Day celebration.</p> <p>In view of the information furnished by the PP and the fact that greenbelt is not contiguous and found in patches, the condition is considered partly complied.</p> <p>PARTLY COMPLIED</p>	Name of tree species	Count	Neem	690	Gulmohar	570	Other Variety	90
Name of tree species	Count								
Neem	690								
Gulmohar	570								
Other Variety	90								
(XVII)	<p>The project proponent shall not store the hazardous wastes more than the quantity that has been permitted by the CPCB/ GPCB.</p> <p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>We don't store hazardous waste more than the prescribed period of 3 months. We follow first come first serve principle. We are strictly following the guidelines issued by CPCB/ GPCB. The same is implemented smoothly as it is captive landfill site.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>								

(XVIII)	Adequate firefighting facilities shall be installed to handle the fire arising from hazardous chemicals / wastes that are store/processes.	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>A detail study was conducted and fire hydrant system along with all other portable firefighting equipment such as dry chemical powder, carbon dioxide, mechanical foam, and fire bucket are installed and operative.</p> <p>The Drum Storage godown is equipped with Water Sprinkler system and Smoke Detectors.</p> <p>The fire fighting network on layout map is also made available.</p> <p>The list of fire extinguishers is also furnished.</p> <p>In view of the submission by the PP and as observed during the site, the condition is considered complied.</p> <p>COMPLIED</p>
B. General Conditions		
1	The project proponent should setup necessary facility for onsite testing of wastes to decide the requirement of treatment if any, before disposal	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>We have developed analytical testing facility (Laboratory) to identify parameters for waste treatment / stabilization (Quick Check Analysis)</p> <p>The list of equipment in laboratory is made available.</p> <p>In view of the submission by the PP, and the availability lab facilities. The condition is considered complied.</p> <p>COMPLIED</p>
2	The project proponent should setup separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Environmental cell has been set up. The cell consist of two Environment field person. Other staff is also having experience in environment field for more than five years.</p> <p>Details of same are made available.</p>

		<p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>						
3	<p>The project proponent should carry out assessment on the functioning of the landfill site, through a third party. Constitution of such independent body shall be informed to the officers of this Ministry /Regional Office</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Third party assessment was done and the copy of MOM is made available.</p> <p>In view of the submission by the PP and the fact that no related information was submitted to the MoEF&CC, Regional Office Bhopal, the condition is considered partly complied.</p> <p>PARTLY COMPLIED</p>						
4	<p>The project proponent should extend full support to the officers of this Ministry /Regional Office during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>We extend full support to the officers of this Ministry / Regional Office and other officials during inspection of the project.</p> <p>In view of the submission by the PP and as observed during the site visit w.r.t providing information, etc., the condition is considered complied.</p> <p>COMPLIED</p>						
5	<p>A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bangalore regarding the implementation of the stipulated conditions</p>	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>Complied and future compliance is assured. We would further like to inform you that we are regularly submitting the report to the Regional Office, MoEF, Bhopal. The dates of compliance report submission is as given below</p> <table><tr><td>Period</td><td>Date of Submission</td></tr><tr><td>April 2010 to September 2010</td><td>15/02/2011</td></tr><tr><td>October 2010 to March 2011</td><td>05/09/2011</td></tr></table>	Period	Date of Submission	April 2010 to September 2010	15/02/2011	October 2010 to March 2011	05/09/2011
Period	Date of Submission							
April 2010 to September 2010	15/02/2011							
October 2010 to March 2011	05/09/2011							

		April 2011 to September 2011	25/11/2011
		October 2011 to March 2012	05/02/2012
		April 2012 to September 2012	22/11/2012
		October 2012 to March 2013	21/05/2013
		April 2014- September 2014	12/12/2014
		October 2014 to March 2015	21/06/2015
		April 2015 to September 2015	28/10/2015
		October 2015 to March 2016	30/04/2016
		April 2016 to September 2016	12/02/2016
		October 2016 to March 2017	14/06/2017
		In view of the submission by the PP, the condition is considered complied.	
		COMPLIED	
6	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Condition Not Applicable to PP	
7	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	PP stated that the condition is not applicable	
8	The project proponents shall inform the Regional Office of this Ministry at Bhopal as well as the Ministry, the date of financial closure and final approval of the project by the concerned	PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following: As in this case, progressive cells are constructed, the Ministry will be informed	

	authorities and the date of start of land development work.	<p>once final closure and financial closure of the site is done. However, GPCB is regularly informed regarding the closure of progressive cell.</p> <p>In view of the submission by the PP, it appears the lack of understanding about financial closure and as no related information was submitted to the MoEF&CC, Regional Office Bhopal, the condition is considered not complied.</p> <p>NOT COMPLIED</p>
9	A copy of the clearance letter will be marked to concerned Panchayat/local NGO, if any, from whom any suggestion /representation has been made received while processing the proposal	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>There were no such specific questions, suggestions or proposal from the public/ panchayat, hence the copy of EC was not shared with the panchayat.</p> <p>In view of the submission by the PP and the fact that no communication was sent to Panchayat concerned, the condition is considered partly complied.</p> <p>PARLTY COMPLIED</p>
10	The project proponent shall provide adequate safety facilities	<p>PP vide letter dated 17.07.2017 received on 21.07.2017 submitted the following:</p> <p>All Required Safety measures are taken during day to day operation. All Required Personnel Protective Equipments are provided to all the employees. Total Site is covered with Fire hydrant system, adequate no. of portable fire extinguishers, safety shower, fire suit, breathing apparatus, occupational health center, own ambulance, etc.</p> <p>In view of the submission by the PP, the condition is considered complied.</p> <p>COMPLIED</p>
11	Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industries centre and Collector's Office/Tehsildar's office for 30 days.	Condition Not Applicable to PP

12	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	PP stated that the condition is not applicable .
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SUMMARY NOTE:

i. Implementation of Conditions:

Out of 33 total conditions, it may be seen that 15 are fully complied, 6 are partly complied, 2 are not complied, 1 is almost not complied, 5 are complied subject to submission of addl. information and 4 are not applicable. These have been explained in the foregoing compliance report against each of the conditions, and the PP needs to take necessary and time bound action for early compliance in respect of the relevant conditions and the general observations mentioned below.

ii. General observations:

During the site visit, it is observed that some internal roads are very muddy and the same needs improvement, the embankments of the capped cells (1 & 2) towards the roadside shall be properly maintained to ensure more safety to the cells.

Fugitive emissions (VOCs) from the incinerator shall be adequately controlled to avoid odor nuisance observed during the site visit.

iii. Court Cases and show cause/closure notices:

PP vide e-mail dated 17.08.2017 submitted that there is no court case against the project and 3 show cause/closure notices were issued by the state Govt/GPCB during last 3 years, the summary of which (as furnished by the PP) is as follows:

NOTICE DATE	POINTS	REPLY GIVEN BY COMPANY
03.10.2015	You have not obtained CTE/CCA for STP @ 50 KLD for labour colony	We have already submitted our application for obtaining Consent to Establish for the Sewage Treatment Plant @ 50 KL/day for labour colony
08.05.2015	During visit mild odor was felt near incinerator	The odour was felt because of leakages in the pumps due to gland failure this has been rectified

	Online system of incinerator stack was not found in operation during visit	Old online system is now been replaced with new system, this has been already communicated to your office in our previous correspondence we expect to commissioning this system before 15 th June 2015
	During visit compound wall near fly ash solidification area i.e survey no. 408/2 was found broken and fly ash was found in plot no. 408/1	The compound wall is repaired and plot no. 408/1 cleaned
15.09.2016	During visit spillages were found in spray drying area	The incidental spillage had happened due to rainfall on the day of the inspection. The spillage were collected and transferred to the storage tank for disposal through the spray dryer. The said area is now clean and is devoid of any spillage
	You are operating STP without obtaining permission of the board	The STP is based on moving bed biofilm reactor technology and installed capacity of 50 KLD. Currently the STP is operated in conventional mode, which is capable to treat domestic waste water at 15 KLD having certain organic load. If required in future, the STP can be extended upto 50 KLD capacity by incorporating media into the system. Based on this clarification, the submitted CTE application my please be reconsidered

G H V C

(Dr. H.V.C. Chary Guntupalli)
Scientist-D