

APSEZL/EnvCell/2019-20/019

Date: 20.05.2019

To

Additional Principal Chief Conservator of Forests (C),

Ministry of Environment, Forest and Climate Change,

Regional Office (WZ), E-5, Kendriya

Paryavaran Bhawan, Arera Colony,

Link Road No. – 3, Bhopal – 462 016.

E-mail: rowz.bpl-mef@nic.in

Sub : Half yearly Compliance report for Environment Clearance for the "Township and area development project" at Survey no. 141 (part), village: Mundra, Dist. Kutch, by M/s. Adani Mundra SEZ Infrastructure Pvt. Ltd."

Ref : Environment clearance granted to Adani Mundra SEZ Infrastructure Pvt. Ltd. vide letter dated 20th February, 2010 bearing SEIAA letter no. SEIAA/GUJ/EC/8(b)/44 /2010.

Dear Sir,

Please refer to the above cited reference for the said subject matter. In connection to the same, it is to state that copy of the compliance report for the Environmental Clearance for the period of October – 2018 to March – 2019 has been submitted through mail communication and acknowledge of the same is attached here for your records.

Thank you,

Yours Faithfully,

For, **M/s Adani Ports and Special Economic Zone Limited**



Avinash Rai

Chief Executive Officer

Mundra & Tuna Port

Encl: As above

Copy to:

- 1) Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara – 390 023
- 2) Member Secretary, GPCB – Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar – 382 010
- 3) Member Secretary, SEIAA, Gujarat, Paryavaran Bhavan, GPCB, Sector 10 A, Gandhi Nagar – 382 010
- 4) Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham, 370201



Environmental Clearance Compliance Report of



Township and
Area Development Project,
Village: Mundra, Dist. Kutch, Gujarat

of
Adani Mundra SEZ Infrastructure Pvt. Limited

for the period of
October-2018 to March-2019

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Index

Sr. No.	Particulars	Page Nos.
1	EC Compliance Report	01
2	Annexures	
	Annexure – 1 Summary of Water Consumption and STP Inlet & Outlet	19
	Annexure – 2 Six Monthly Environment Monitoring Report	20
	Annexure – 3 Typical copy of BMW disposal logbook record	31
	Annexure – 4 Green Belt Development details	32
	Annexure – 5 Environment Management Cell Organogram	33
	Annexure – 6 Environment Protection Expenditure	34

Compliance Report of Environment Clearance

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Half yearly Compliance report for Environment Clearance for the project "Township and area development project at Mundra, Dist. Kachchh, Gujarat of M/s. Adani Mundra SEZ Infrastructure Pvt. Ltd." issued vide letter no. SEIAA/GUJ/EC/8(b)/44/2010 dated 20th February 2010.

Sr. No.	Conditions	Compliance Status as on 31-03-2019
A. Specific Conditions		
A.1	Construction Phase:	
1.	Minimum Aerial distance of 100 m shall be kept between processing & non – processing areas of SEZ, as proposed.	<p>Complied during the construction phase. Not applicable at present.</p> <p>This reply covers Condition No. 1 to 27 of Construction Phase.</p> <p>The details of the compliances with respect to construction phase are submitted in Oct'16 to March'17 compliance report.</p> <p>Construction work for the project is partially completed. However, no construction activity carried out during the compliance period of Oct'18 to Mar'19.</p> <p>All the specific conditions provided for construction phase will be considered upon recommencement of construction activity in future.</p>
2.	Height of the buildings in the project shall be restricted to 42 meter (in view of the height restriction specified by the aviation authority) or the height permissible under the bylaws prescribed the SEZ authority, whichever is more stringent. This, however, shall not increase the total population envisaged under the EIA report prepared and submitted to SEAC and SEIAA and shall not increase in the resource consumption like total water usage or wastes generated.	
2(a)	The requirement for fire prevention, line safety in relation to fire and fire protection of the building shall be fulfilled in the project, as per the National Building Code of India so as to minimize danger to life and property from fire.	
2(b)	All high rise buildings shall have at least two staircases with a condition that the nearest staircases shall be available at every 30 meter from all places in a given building.	

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019
3.	The project proponent shall not obstruct the flow of river Bhukhi passing through the social infrastructure area and shall not do any encroachment on the said river, as per their undertaking dated 21/07/2009. All necessary precautions and measures shall be taken in order to ensure that natural drainage of river Bhukhi passing through the project site is not altered / affected.	Complied during the construction phase. Not applicable at present. The details of the compliances with respect to construction phase are submitted in Oct'16 to March'17 compliance report. Construction work for the project is partially completed. However, no construction activity carried out during the compliance period of Oct'18 to Mar'19. All the specific conditions provided for construction phase will be considered upon recommencement of construction activity in future.
4.	Additional bridge / walkthrough over the Bhukhi river passing through the site shall be provided between the two bridges planned to be provided so as to reduce distance to be travelled during the emergency situations.	
5.	If SEZ authority permits, adequate parapet / fencing shall be provided along the banks of river Bhukhi passing through the site for preventing fall of animals / humans.	
6.	All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	
7.	The construction site shall be provided with adequately barricades of at least 3 m height on its periphery with adequate signage	
8.	Adequate first aid facilities shall be provided in the project both during construction and operation of the project.	

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019
9.	Adequate drinking water, sanitation and other amenities shall be provided for construction workers at the site. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.	Complied during the construction phase. Not applicable at present. The details of the compliances with respect to construction phase are submitted in Oct'16 to March'17 compliance report. Construction work for the project is partially completed. However, no construction activity carried out during the compliance period of Oct'18 to Mar'19. All the specific conditions provided for construction phase will be considered upon recommencement of construction activity in future.
10.	Provision should be made for the supply of fuel (Kerosene or cooking gas), utensils such as pressure cookers etc. to the laborers during construction phase.	
11.	The project proponent shall ensure that the construction labours are provided with adequate amenities for lighting, drinking water, sanitation etc. to ensure that do not ruin the existing environmental condition.	
12.	Adequate personal protective equipments shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labours.	
13.	All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	
14.	Disposal of debris including the excavated material during construction phase shall not create adverse effect on neighbouring communities and shall be disposed of only at the approved sites with the approval of the competent authority after taking the necessary precautions for general safety and health	

Status of the conditions stipulated in Environment Clearance

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	aspects.	
15.	Use of diesel generator sets during construction phase should be enclosed type and confirm to EPA rules for air and noise emission standards.	<p>Complied during the construction phase. Not applicable at present.</p> <p>The details of the compliances with respect to construction phase are submitted in Oct'16 to March'17 compliance report.</p> <p>Construction work for the project is partially completed. However, no construction activity carried out during the compliance period of Oct'18 to Mar'19.</p> <p>All the specific conditions provided for construction phase will be considered upon recommencement of construction activity in future.</p>
16.	Ready-made mix concrete should be used so far as possible	
17.	Water demand during construction should be reduced by use of curing agents, plasticizers and other best practices.	
18.	Vehicles hired for bringing construction material at site should be in good conditions and confirm to applicable air and noise emission standards and should be operated only during non-peak hours.	
19.	Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	
20.	Fixtures for showers, toilet, flushing and drinking should be of low flow either by use of aerator or pressure reducing devices or sensor based control.	
21.	Fly ash should be used as building material in the construction as per provision of Fly Ash Notification under EPA.	
22.	Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	
23.	No ground water shall be used and the water required during construction phase shall be sourced from Gujarat Water Infrastructure Ltd.	

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
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Sr. No.	Conditions	Compliance Status as on 31-03-2019
24.	The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages. Appropriate barricading shall be done and signboards shall be put at such site.	<p>Complied during the construction phase. Not applicable at present.</p> <p>The details of the compliances with respect to construction phase are submitted in Oct'16 to March'17 compliance report.</p> <p>Construction work for the project is partially completed. However, no construction activity carried out during the compliance period of Oct'18 to Mar'19.</p>
25.	Ambient Air Quality Monitoring / Noise monitoring shall be carried out during the construction. The location of ambient air quality monitoring stations and its frequency shall be decided in consultation with GPCB.	<p>All the specific conditions provided for construction phase will be considered upon recommencement of construction activity in future.</p>
26.	The provisions of the buildings and other construction workers rules shall be met with by the project proponent in addition to other statutory requirements under different environmental pollution control and safety related acts and rules.	
27.	Environment Management Cell shall be formed, which will supervise and monitor the environment related aspects of the project during construction and operational phases in addition to observance of Gujarat Building and other constructions workers act and rules including registration of the project under this act.	
A.2	Operation Phase:	
28.	Fresh water requirement during the operation phase shall not exceed 9 MLD and it shall be sourced from Gujarat Water Infrastructure Ltd. Metering of the water shall be done and its records shall be maintained. No ground water shall be extracted.	<p>Complied.</p> <p>No ground water is being extracted.</p> <p>Fresh water requirement for Samudra township and Adani Hospital is approximately 1.0 MLD during compliance period which is sourced through Gujarat Water Infrastructure Ltd. (GWIL) pipeline from</p>

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		Narmada water supply and APSEZ desalination plant. No ground water is being extracted. Record maintained for quantity of water usage during the period Oct'18 to Mar'19 is attached as Annexure – 1.																														
29.	The total sewage generation from the proposed social infrastructure project shall not exceed 7.2 MLD.	Complied. Average quantity of sewage generation was 674 KLD at Samudra township and 17 KLD at Adani Hospital. Average quantity of treated sewage discharge was 0.66 MLD during compliance period. Generated sewage is being treated in STP to utilize for horticultural purpose. Details of sewage generated during the period Oct'18 to Mar'19, is attached as Annexure – 1.																														
30.	The project proponent shall install and operate adequate sewage treatment plants (STP) comprising of 3 modules of STP (each of 2.5 MLD) to achieve ultimate capacity of 7.5 MLD, for treatment of sewage. These STP modules shall be operated regularly and effectively to achieve the GPCB norms.	Complied. STP having capacity of 2.5 MLD is constructed and operated in township area. Treated sewage is utilized for horticulture purposes after achieving discharge norms of GPCB. One STP having capacity of 30 KLD is constructed and operated in Hospital. Treated sewage is utilized for horticulture purposes. Third party analysis of the treated water is being carried out twice in a month by NABL and MoEF&CC accredited agency namely M/s. Pollucon Laboratory Pvt. Ltd. Summary of the same for duration from Oct'18 to Mar'19 is mentioned below. Locations: 02 STPs (Township & Hospital) <table><tr><th>Parameters</th><th>Unit</th><th>Min</th><th>Max</th><th>Perm. Limit^{\$}</th></tr><tr><td>pH</td><td>--</td><td>6.89</td><td>8.14</td><td>6.5 – 8.5</td></tr><tr><td>TSS</td><td>mg/L</td><td>8</td><td>28</td><td>100</td></tr><tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>7</td><td>18</td><td>30</td></tr><tr><td>Residual Chlorine</td><td>ppm</td><td>0.1</td><td>0.8</td><td>Min. 0.5</td></tr><tr><td>Fecal Coliform</td><td>MPN/ 100ml</td><td>94</td><td>540</td><td>< 1000</td></tr></table> <div>\$ as per CC&A granted by GPCB</div>	Parameters	Unit	Min	Max	Perm. Limit ^{\$}	pH	--	6.89	8.14	6.5 – 8.5	TSS	mg/L	8	28	100	BOD (3 Days @ 27 °C)	mg/L	7	18	30	Residual Chlorine	ppm	0.1	0.8	Min. 0.5	Fecal Coliform	MPN/ 100ml	94	540	< 1000
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Sr. No.	Conditions	Compliance Status as on 31-03-2019
		<p>Please refer Annexure – 2 for detailed analysis reports. Approx. INR 20.36 Lakh is spent for all environmental monitoring activities during the FY 2018-19.</p> <p>GPCB is also doing sampling and analysis of treated water during their routine visit and its report was submitted along with last EC Compliance Report for the period Apr'18 to Sep'18.</p>
31.	Two modules of STP of 2.5 MLD (i.e. total 5 MLD) shall be installed on one side of the Bhukhi River and one module of STP of 2.5 MLD shall be installed on the other side of the Bhukhi River passing through the social infrastructure project. Hence no any cross drainage civil work shall be carried out.	<p>Complied.</p> <p>At present one STP of 2.5 MLD is installed on one side of Bhukhi river for Samudra Township and one STP of 30 KLD is installed on other side of Bhukhi river for Adani Hospital.</p> <p>Hence no cross drainage civil work is carried out at AMSIPL Area.</p>
32.	Out of total 7.2 MLD of treated sewage conforming the GPCB norms, 2 MLD treated sewage shall be utilized within the project area for plantation / gardening whereas balance 5.2 MLD of treated sewage shall be utilized in the identified area of MPSEZL for plantation / gardening.	<p>Complied.</p> <p>During Oct'18 to Mar'19 approx. 0.66 MLD treated water was used for gardening / plantation purpose within township area / APSEZ area.</p>
33.	In no case, the wastewater / treated sewage shall be discharged into the river Bhukhi passing through the social infrastructure project.	<p>Complied</p> <p>During Oct'18 to Mar'19 approx. 0.66 MLD treated water was used for gardening / plantation purpose within township area / APSEZ area. Hence in no case, the wastewater / treated sewage is discharged into the river Bhukhi passing through the social infrastructure project.</p>
34.	Best available technology shall be used for disinfection of treated sewage before reuse / discharge.	<p>Complied.</p> <p>Chlorination treatment is provided for disinfection before reuse.</p>
35.	Rain water harvesting of roof top run off of the building to be constructed as a part of social	<p>Complied.</p> <p>Location of rain water harvesting was earmarked at one of location in identified SEZ area based on</p>

Status of the conditions stipulated in Environment Clearance

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	infrastructure as per the plan submitted shall be implemented. Before recharging the rain water, pre-treatment must be done to remove suspended matter.	direction of flow of storm water channel. However underground water is saline in nature due to sea water ingress and harvested water is likely to get contaminated in high tide. The project will be taken up upon finding out the solution for rain water harvesting within project boundary.
36.	The Municipal Solid Waste (MSW) shall be properly collected and segregated at source and it shall be disposed as per the guidelines of the MSW Rules 2000, as may be amended time to time. The dried biomass from the STP will be used as manure in gardening / plantation.	<p>Complied.</p> <p>A well-established system for Municipal Solid Waste (MSW) management is in place.</p> <p>Municipal solid waste collection from AMSIPL area is being done on daily bases. Collected dry waste is being transported to Material Recovery Facility (MRF) where it is being sorted out in different streams e.g. paper/plastic/cardboard/glass/metal. These sorted wastes are further transported for recycling.</p> <p>AMSIPL has installed Organic Waste Converter within premises for converting food waste in to manure and / or biogas. Generated manure is being utilized by horticulture department in green belt area and biogas is being utilized in kitchen area for cooking food.</p> <p>Total 188 MT manure and 1938 Cum biogas was prepared from food and organic waste during the compliance period i.e. Oct'18 to Mar'19 and utilized within APSEZ area. Dry waste collection drive including plastic free drive and waste segregation drive is being organised on regularly basis.</p>
37.	The Bio-medical Waste (BMW) shall be disposed as per guidelines of BMW rules 1998 as may be amended from time to time.	<p>Complied.</p> <p>Multispecialty hospital has taken the necessary approvals from GPCB for the disposal of Bio Medical Waste. Total 1892 kg of bio medical waste was disposed to Common Bio Medical Waste Treatment facility during the compliance period by M/s Distormed Kutch Services Pvt. Ltd., Bhuj at the frequency of once in two days. Log book showing the record of Bio-medical Waste collection is attached as Annexure – 3.</p>
38.	Hazardous wastes, if any generated during the operation	<p>Point Noted.</p> <p>No hazardous waste was generated during the</p>

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
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Sr. No.	Conditions	Compliance Status as on 31-03-2019
	phase shall be handled as per the Hazardous Waste (Management, Handling & Transboundary Movement) Rules 2008, as may be amended from time to time.	compliance period of Oct'18 to Mar'19. If any hazardous waste generation in future, it will be dispose through authorised agency only as per Hazardous Waste Rules – 2016.
39.	54,600 sq.m. area shall be earmarked for the parking purpose as proposed. The area earmarked for the parking shall be used for parking only. No other activity shall be permitted in this area.	Complied. Construction work for the project is partially completed. Entire parking area is earmarked for parking as per National Building Code requirement within township premises. This parking is used for said purpose only.
40.	Necessary signage including continuous display of status of parking availability at entry, exit and all other appropriate places shall be provided which should have appropriate size of letters and shall be visible from the at least 50 meter distance from the adjacent road.	Complied. Project is under development and area is earmarked for parking area as per National Building Code requirement. Trained security guards are deputed round the clock to guide/help for entry, exit and parking. Continuous display regarding status of parking availability will be installed once project is in full-fledged operation.
41.	No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors for parking and helping the senior citizens and physically challenged people	Complied. Adequate parking area has been provided as per National Building Code. Trained security guards are available round the clock to guide/help for entry, exit and parking to senior citizens and physically challenged people.
42.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.	Complied. Separate entry and exits have been provided at main gate with architectural divider for proper traffic management. Appropriate arrangements are made for emergency situations.
43.	Common utilities like drinking water facility, toilets etc shall be provided on each floor with adequate signage thereof. Adequate distance shall be maintained between the drinking water and toilet blocks.	Complied. Common utilities like drinking water facility, toilets etc. are provided at Adani Hospital and commercial building with adequate distance between drinking water & toilet facilities.
44.	The green belt shall be developed in 50 Hectares area in terms of peripheral green belt around the project site, road side plantation and green belt on	Complied. AMSIPL has developed 55.63 ha area as green belt with plantation of 64299 saplings in AMSIPL premises. The open spaces inside the social

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
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Sr. No.	Conditions	Compliance Status as on 31-03-2019										
	either side of the Bhukhi river. The project proponent shall plant at least 20,000 trees in green belt, as proposed. The open spaces inside the social infrastructure project shall be suitably landscape and covered with vegetation of indigenous variety.	infrastructure project are suitably landscaped and covered with green lawn and other vegetation. So, far APSEZ have developed more than 455 ha. area as greenbelt with plantation more than 8.3 Lacs saplings within the APSEZ area. Details of the green belt development activity done by APSEZL, Mundra are attached as Annexure – 4 .										
45.	The area earmarked as green area shall be used only for green belt and shall not be altered for any other purpose. The fund earmarked for green belt development shall not be diverted for any other purpose.	Complied. The area earmarked as green area is used only for green belt and not altered for any other purpose. Separate budget for the horticulture department is earmarked every year. The spent budget of Horticulture Department for the period of financial year 2018-19 is INR 580 lacs. Details upon green belt development are provided in condition no. 44 above.										
46.	The project proponent shall explore the application of solar energy and shall be incorporated for the illumination of common areas, lighting of internal roads and passages in addition to solar water heating, if any.	Complied. Solar power system of 1.5 MW at roof top of residential blocks of Samudra Township and 69 KW at Adani Hospital has been installed and commissioned. Information has been already submitted to MoEF&CC along with Half Yearly Compliance Report Apr'16 to Sep'16.										
47.	The acoustic enclosures shall be installed at all noise generating equipments and the noise level shall be maintained as per the MoEF / CPCB guidelines / norms both during day and night time.	Complied. D.G. Sets having acoustic enclosures are provided as stand-by and used in case of main power failure only. However, regular noise monitoring is being carried out. Noise (once in a month) monitoring is being carried out by NABL and MoEF&CC accredited agency namely M/s. Pollucon Laboratory Pvt. Ltd. Summary of the same for duration of Oct'18 to Mar'19 is mentioned below. Total Sampling Locations & Frequency: 2 Nos. (Monthly) <table><tr><th>Noise</th><th>Unit</th><th>Min</th><th>Max</th><th>Perm. Limit^{\$}</th></tr><tr><td>Day Time</td><td>dB(A)</td><td>52.6</td><td>74.1</td><td>75</td></tr></table>	Noise	Unit	Min	Max	Perm. Limit ^{\$}	Day Time	dB(A)	52.6	74.1	75
Noise	Unit	Min	Max	Perm. Limit ^{\$}								
Day Time	dB(A)	52.6	74.1	75								

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
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Sr. No.	Conditions	Compliance Status as on 31-03-2019				
		Night Time	dB(A)	50.4	69.4	70
		as per NAAQ standards, 2009				
		Please refer Annexure – 2 for detailed analysis reports. Approx. INR 20.36 Lakh is spent for all environmental monitoring activities during the period Oct'18 to Mar'19.				
48.	The project proponent shall install the electric appliances, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable.	Complied. Energy Conservation through Installation of Motion Sensor (Occu switch) & AC Temp. Controls in buildings are provided. AMSIPL has installed the electric appliances which meets the Energy Efficiency norms.				

Status of the conditions stipulated in Environment Clearance

Sr. No.	Conditions	Compliance Status as on 31-03-2019																					
49.	The energy audit shall be conducted at regular interval for the project and the recommendations of the audit report shall be implemented with spirit.	<p>Complied.</p> <p>Energy audit is carried out once in a three years. Last audit was carried out on 21.01.2017 by M/s. Mitcon Consultancy & Engineering Services Ltd. Energy audit report for Samudra Township was submitted as a part of compliance report for the duration of Apr'17 to Sep'17.</p> <p>Compliance status of audit recommendations is as below.</p> <table> <tr> <th>Sr. No.</th><th>Energy Saving Area</th><th>Compliance Status</th></tr> <tr> <td>1</td><td>Energy Saving by shifting load of Block C1 TRFO6 on TRFO4 and isolating TRFO6</td><td>Completed.</td></tr> <tr> <td>2</td><td>Energy Saving by replacing Recirculation Pump with New High efficient pump</td><td>The replacement pump will be done on expiry of their useful life.</td></tr> <tr> <td>3</td><td>Energy Saving by Suction Cleaning in Raw sewage water pump 1</td><td>The replacement pump will be done on expiry of their useful life.</td></tr> <tr> <td>4</td><td>Replacement of 70 W MH with 21 W LED in parking lights</td><td>Completed.</td></tr> <tr> <td>5</td><td>Replacement of conventional ceiling fans with energy efficient fans</td><td>The replacement conventional ceiling fans will be done on expiry of their useful life.</td></tr> <tr> <td>6</td><td>Replacement of 44 W CFL with 21 W LED in parking lights</td><td>Completed.</td></tr> </table>	Sr. No.	Energy Saving Area	Compliance Status	1	Energy Saving by shifting load of Block C1 TRFO6 on TRFO4 and isolating TRFO6	Completed.	2	Energy Saving by replacing Recirculation Pump with New High efficient pump	The replacement pump will be done on expiry of their useful life.	3	Energy Saving by Suction Cleaning in Raw sewage water pump 1	The replacement pump will be done on expiry of their useful life.	4	Replacement of 70 W MH with 21 W LED in parking lights	Completed.	5	Replacement of conventional ceiling fans with energy efficient fans	The replacement conventional ceiling fans will be done on expiry of their useful life.	6	Replacement of 44 W CFL with 21 W LED in parking lights	Completed.
Sr. No.	Energy Saving Area	Compliance Status																					
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4	Replacement of 70 W MH with 21 W LED in parking lights	Completed.																					
5	Replacement of conventional ceiling fans with energy efficient fans	The replacement conventional ceiling fans will be done on expiry of their useful life.																					
6	Replacement of 44 W CFL with 21 W LED in parking lights	Completed.																					
50.	The roof should meet regulatory requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirements.	<p>Complied.</p> <p>Energy Conservation Building Code is considered during the development of buildings.</p>																					
51.	Use of glass shall be minimal to reduce the electricity consumption and load on air-conditioning.	<p>Complied.</p> <p>Minimal glass is used in air conditioning areas to reduce electricity consumption and load on air-conditioning.</p>																					
52.	Risk estimation shall be carried out for the project and disaster	Complied.																					

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	management plan shall be prepared and its recommendations shall be implemented in the time bound manner.	<p>Emergency Response Plan was prepared by Trivedi & Associates Technical Services Pvt. Ltd in August, 2015 for AMSIPL which included risk estimation for medical emergency, fire emergency, natural calamities.</p> <p>Detail are submitted to the MoEF & CC along with half yearly compliance report for the period from Apr – 2015 to Sep – 2015.</p> <p>Various plans as fire service plan, communication plan, mutual aid plan, and evacuation plan are implemented to combat with emergency situations.</p>														
53.	The raw water sumps will be equipped with suction differential head / partition so as to insure that minimum 500 KL water shall remain reserved as fire water as proposed.	<p>Complied.</p> <p>250 KL of fire water is reserved with fire hydrant system for Adani hospital. Approximately 400 KL water is available in 6 different water tanks at various sectors of Samudra Township. In total, more than 500 KL water is reserved as fire water at AMSIPL.</p>														
54.	Necessary emergency lighting system along with emergency power back up system shall be provided. In addition, emergency public address system arrangement and signage for emergency exit route shall be provided on each floor.	<p>Complied.</p> <p>Power is supplied through M/s MPSEZ Utilities Private Limited to the project site.</p> <p>Power failure is the rarest situation in the area and in case of such emergency, there is provision of 125 KVA D.G. set at Samudra Township and 500 KVA D.G. set at Adani Hospital.</p> <p>Public address system is available with the security staff in the vicinity.</p> <p>Emergency contact is display each block as below</p> <table><tr><td>Security control</td><td>8980048877</td></tr><tr><td>Township Security control</td><td>8980015046</td></tr><tr><td>Medical Adani hospital reception</td><td>2838-619555</td></tr><tr><td>Medical Emergency Number -</td><td>2838-619667</td></tr><tr><td>Medical Emergency mobile Number</td><td>7574848413</td></tr><tr><td>Fire control room-</td><td>2838-255801</td></tr><tr><td>Fire control room mob.</td><td>9879114996</td></tr></table>	Security control	8980048877	Township Security control	8980015046	Medical Adani hospital reception	2838-619555	Medical Emergency Number -	2838-619667	Medical Emergency mobile Number	7574848413	Fire control room-	2838-255801	Fire control room mob.	9879114996
Security control	8980048877															
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Medical Emergency Number -	2838-619667															
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Fire control room-	2838-255801															
Fire control room mob.	9879114996															
55.	Necessary auto glow, signage at all appropriate places shall be provided to guide the people towards exits and assembly	<p>Complied.</p> <p>Auto glow signage is provided at adequate locations to provide guidance to the people towards exits. Also the township & Adani Hospital is under security</p>														

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	points during the unforeseen emergency and eventuality conditions.	guard surveillance to combat with unforeseen emergency conditions. Photograph showing the auto glow signages were submitted along with compliance report submission for the duration of Oct'16 to Mar'17. Photographs showing the emergency signages were submitted along with last EC Compliance report for the period Apr'18 to Sep'18.
56.	Training to the staff for the First Aid and Fire Fighting Alarm with regular mock drill shall be conducted regularly and shall be made in integral part of the disaster management plan of the project.	<p>Complied.</p> <p>For first aid situations a First Aid centre is provided at Samudra Township. Multispecialty Hospital is part of the project activity which can be utilised for medical emergencies. APSEZ has provided training to 19 personnel for First-aid through Red Cross Society during 20.04.17 to 21.04.17.</p> <p>Regular mock drill is also conducted at project site. The report of the same was submitted as a part of compliance report for the duration of Apr'17 to Sep'17. Awareness session was carried out for home fire safety awareness at Samudra Township & pasting of LPG fire safety stickers. Total 734 families of Samudra Township were educated regarding LPG fire safety and LPG fire safety stickers pasted in their homes. Details of the same were submitted along with last EC Compliance report for the period Apr'18 to Sep'18.</p>
57.	Ozone Depleting Substance (Regulation and Control) rules shall be followed while designing the air conditioning system of the project.	<p>Complied.</p> <p>Ozone Depleting Substance inventory was produced and is maintained during the compliance period of Oct'18 to Mar'19. New gas being used in refilling is ozone friendly in nature.</p>
58.	Environment Management Cell shall be formed by the project proponent during operation phase which will supervise and monitor the environment related aspects of the project including incremental pollution loads on the ambient air quality, noise and water quality periodically till the management of the project remains with the project	<p>Complied.</p> <p>APSEZL as group has a well structured Environment Cell, staffed with qualified manpower for implementation of the Environmental Monitoring and Management Plan. Organogram showing Environment Management Cell is attached as Annexure – 5.</p> <p>Ambient Air Quality (twice in a week) and Noise (once in a month) monitoring are being carried out by NABL</p>

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019																																								
	proponent.	<p>and MoEF&CC accredited agency namely M/s. Pollucon Laboratory Pvt. Ltd. Summary of the same for duration from Apr'18 to Sep'18 is mentioned below.</p> <p>Total Sampling Locations & Frequency: 2 Nos.</p> <table><tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit^{\$}</th></tr><tr><td>PM₁₀</td><td>µg/m³</td><td>96.25</td><td>46.27</td><td>100</td></tr><tr><td>PM_{2.5}</td><td>µg/m³</td><td>58.3</td><td>18.44</td><td>60</td></tr><tr><td>SO₂</td><td>µg/m³</td><td>28.49</td><td>6.48</td><td>80</td></tr><tr><td>NO₂</td><td>µg/m³</td><td>45.37</td><td>15.69</td><td>80</td></tr><tr><th>Noise</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit</th></tr><tr><td>Day Time</td><td>dB(A)</td><td>74.1</td><td>52.6</td><td>75</td></tr><tr><td>Night Time</td><td>dB(A)</td><td>69.4</td><td>50.4</td><td>70</td></tr></table> <p>\$ as per NAAQ standards, 2009</p> <p>Please refer Annexure – 2 for detailed analysis reports. Approx. INR 20.36 Lakh is spent for all environmental monitoring activities during the period FY 2018-19.</p>	Parameter	Unit	Max	Min	Perm. Limit ^{\$}	PM ₁₀	µg/m ³	96.25	46.27	100	PM _{2.5}	µg/m ³	58.3	18.44	60	SO ₂	µg/m ³	28.49	6.48	80	NO ₂	µg/m ³	45.37	15.69	80	Noise	Unit	Max	Min	Perm. Limit	Day Time	dB(A)	74.1	52.6	75	Night Time	dB(A)	69.4	50.4	70
Parameter	Unit	Max	Min	Perm. Limit ^{\$}																																						
PM ₁₀	µg/m ³	96.25	46.27	100																																						
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Noise	Unit	Max	Min	Perm. Limit																																						
Day Time	dB(A)	74.1	52.6	75																																						
Night Time	dB(A)	69.4	50.4	70																																						

B. General Conditions

59.	The project proponent shall permit the outside people to use the social infrastructures like hospital, schools, colleges etc. coming up in the proposed project, as per their undertaking dated 21/07/2009.	<p>Complied.</p> <p>Outside people are allowed to use the social infrastructures like hospital and school.</p> <p>Total 5,674 patients including OPD (Out Patient Department) as well IPD (In-Patient Department) from nearby villages were treated in the Hospital during this compliance period. Approx. INR 44.75 Lakh worth of free medical services given to nearby villagers during the compliance period Oct'18 to Mar'19.</p>
60.	Various provisions of the Environment (Protection) Act, 1986 and the Rules / Notifications issued there under by the Ministry of Environment and Forest, Govt. of India, from time to time shall be strictly complied with.	Point noted.

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019
61.	No further expansion or modification in the plant shall be carried out without prior approval of the MoEF/SEIAA as the case may be. In case of deviations or alterations in the project proposal from those submitted to MoEF / SEIAA / SEAC for clearance, a fresh reference shall be made to the SEIAA / SEAC to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Point noted.
62.	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	<p>Complied.</p> <p>Separate budget for the Environment cell is earmarked every year. All environmental and horticulture activities are considered at group level and budget allocation is also done accordingly.</p> <p>Budget for environmental management measures (including horticulture) for the FY 2018-19 is to the tune of INR 1069 lakh. Out of which, Approx. INR 1008 lakh are spent during the FY 2018-19. Detailed breakup of the expenditures for the past 3 years is attached as Annexure – 6.</p>
63.	The applicant shall inform the public that the project has been accorded Environmental Clearance by the SEIAA and i.e. copies of the clearance letter are available with the GPCB and may also be seen at the website of SEIAA / SEAC / GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspaper that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same	<p>Already complied. Not applicable at present.</p> <p>The advertisement was circulated in Gujarati language through local newspaper – Kutchh Mitra as well as in English language through local newspaper – Indian Express on the date of 10.03.2010.</p> <p>Information has been already submitted to MoEF & CC along with half yearly compliance report April – 2015 to Sep – 2015.</p>

Status of the conditions stipulated in Environment Clearance

Sr. No.	Conditions	Compliance Status as on 31-03-2019																					
	shall be forwarded to the concerned regional office of the Ministry.																						
64.	It shall be mandatory for the project management to submit half yearly compliance report in respect of the stipulated prior Environmental Clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1 st June and 1 st December of each calendar year.	<p>Complied.</p> <p>Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Apr'18 to Sep'18 was submitted to Regional Office of MoEF&CC @ Bhopal, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and SEIAA, Gandhinagar vide our letter dated 23.11.2018. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads.</p> <p>A soft copy of the same was also submitted through e-mail on 30.11.2018 to all the authorities. Please refer below for the details regarding past six compliance submissions.</p> <table border="1"> <thead> <tr> <th>Sr. no.</th><th>Compliance period</th><th>Date of submission</th></tr> </thead> <tbody> <tr> <td>1</td><td>Oct'15 to Mar'16</td><td>30.05.2016</td></tr> <tr> <td>2</td><td>Apr'16 to Sep'16</td><td>01.12.2016</td></tr> <tr> <td>3</td><td>Oct'16 to Mar'17</td><td>30.05.2017</td></tr> <tr> <td>4</td><td>Apr'17 to Sep'17</td><td>01.12.2017</td></tr> <tr> <td>5</td><td>Oct'17 to Mar'18</td><td>29.05.2018</td></tr> <tr> <td>6</td><td>Apr'18 to Sep'18</td><td>30.11.2018</td></tr> </tbody> </table>	Sr. no.	Compliance period	Date of submission	1	Oct'15 to Mar'16	30.05.2016	2	Apr'16 to Sep'16	01.12.2016	3	Oct'16 to Mar'17	30.05.2017	4	Apr'17 to Sep'17	01.12.2017	5	Oct'17 to Mar'18	29.05.2018	6	Apr'18 to Sep'18	30.11.2018
Sr. no.	Compliance period	Date of submission																					
1	Oct'15 to Mar'16	30.05.2016																					
2	Apr'16 to Sep'16	01.12.2016																					
3	Oct'16 to Mar'17	30.05.2017																					
4	Apr'17 to Sep'17	01.12.2017																					
5	Oct'17 to Mar'18	29.05.2018																					
6	Apr'18 to Sep'18	30.11.2018																					
65.	The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	Point noted.																					
66.	The project authorities shall inform the GPCB, regional office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied																					
67.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Point noted.																					

	Adani Mundra SEZ Infrastructure Pvt. Ltd., Mundra.	From : Oct'18 To : Mar'19
Status of the conditions stipulated in Environment Clearance		

Sr. No.	Conditions	Compliance Status as on 31-03-2019
68.	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary. The above conditions will be enforced inter-alia under the provisions of the water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, the environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Complied. The company has implemented the provided conditions and the compliance report is being submitted regularly. Please refer Condition No. 64 for further details.
69.	This environmental clearance is valid for five years from the date of issue.	Point noted.
	Additional condition – (amendment to Environment Clearance Order No. SEIAA/GUJ/EC/8(b)/44/2010 dated 20 February 2010	
--	The applicant shall carry out comparative carbon footprint study of low rise building with large ground coverage v/s high rise building with low ground coverage through reputed institute like CEPT or GIDR and submitted to SEIAA within one year from the issuance of EC.	Complied. Comparative carbon footprint study report submitted to the MoEF & CC along with half yearly compliance report Oct – 2014 to March – 2015.

ANNEXURE – 1

<u>ANNEXURE – 1</u> Water Consumption and Wastewater Generation Details for AMSIPL (Oct'18 to Mar'19)			
Month	Water Consumption, KL	STP Water Inlet, KL	STP Water Outlet, KL
Oct'18	32530	20440	20904
Nov'18	30533	19057	19699
Dec'18	29182	20773	20541
Jan'19	30407	21520	20323
Feb'19	31866	19693	16969
Mar'19	30293	24350	21003
Total	1,84,811	1,25,833	1,19,439

Note: Treated sewage water is completely reused for gardening purpose

ANNEXURE – 2

"HALF YEARLY ENVIRONMENTAL MONITORING REPORT"

FOR



**ADANI MUNDRA SEZ INFRASTRUCTURE PVT.LTD.
TAL: MUNDRA, KUTCH, MUNDRA – 370 421**

**MONITORING PERIOD:
OCTOBER 2018 TO MARCH 2019**

PREPARED BY:



POLLUCON LABORATORIES PVT.LTD.

**PLOT NO.5/6 "POLLUCON HOUSE", OPP. BALAJI INDUSTRIAL SOCIETY,
OLD SHANTINATH SILK MILL LANE, NEAR GAYTRI FARSAN MART,
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TC - 5945

ISO 9001:2015

ISO 14001:2015

OHSAS 18001:2007

**POLLUCON**

LABORATORIES PVT. LTD.

Environmental Auditors, Consultants & Analysts.
Cleaner Production / Waste Minimization Facilitator

Recognised by MoEF, New Delhi Under Sec. 12 of Environmental (Protection) Act-1986

RESULTS OF STP WATER OUTLET

SR. NO	TEST PARAMETERS	Unit	AMSIPL SAMUNDRA TOWNSHIP STP OUTLET							
			October-18		November-18		December-18		GPCB Permissible Limit	TEST METHOD
			03/10/2018	15/10/2018	03/11/2018	19/11/2018	04/12/2018	17/12/2018		
1	pH	--	7.30	7.12	7.13	7.25	7.12	7.59	--	IS3025(P11)83Re.02
2	Total Suspended Solids	mg/L	16	28	28	14	8	15	30	IS3025(P17)84Re.02
3	BOD (3 days @ 270 C)	mg/L	10	12	14	16	10	12	20	IS 3025 (P44)1993Re.03Edition 2.1
4	Residual Chlorine	mg/L	0.6	0.8	0.5	0.6	0.6	0.4	Min 0.5	APHA(22ndEdi)4500 Cl
5	Fecal Coliform	MPN/100 ml	540	430	< 2	< 2	140	110	< 1000	APHA (22ndEdi) 9221 C&E

SR. NO	TEST PARAMETERS	Unit	AMSIPL SAMUNDRA TOWNSHIP STP OUTLET							
			January-19		February-19		March-19		GPCB Permissible Limit	TEST METHOD
			03/01/2019	18/01/2019	04/02/2019	18/02/2019	04/03/2019	18/03/2019		
1	pH	--	7.21	7.38	7.5	7.75	8.10	8.14	--	IS3025(P11)83Re.02
2	Total Suspended Solids	mg/L	11	21	24	16	28	24	30	IS3025(P17)84Re.02
3	BOD (3 days @ 270 C)	mg/L	7	8.0	18	14	12	10	20	IS 3025 (P44)1993Re.03Edition 2.1
4	Residual Chlorine	mg/L	0.8	0.6	1.0	< 0.1	0.8	0.4	Min 0.5	APHA(22ndEdi)4500 Cl
5	Fecal Coliform	MPN/100 ml	120	110	140	94	150	110	< 1000	APHA (22ndEdi) 9221 C&E

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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SR. NO	TEST PARAMETERS	Unit	ADANI HOSPITAL STP OUTLET							
			October-18		November-18		December-18		GPCB Permissible Limit	TEST METHOD
			03/10 /2018	15/10/ 2018	03/11/ 2018	20/11/ 2018	04/12/ 2018	18/12/ 2018		
1	pH	--	7.08	7.50	8.10	7.17	7.25	7.60	--	IS3025(P11)83Re.02
2	Total Suspended Solids	mg/L	10	28	16	10	27	24	30	IS3025(P17)84Re.02
3	BOD (3 days @ 270 C)	mg/L	16	18	12	15	19	12	20	IS 3025 (P44)1993Re.03Edition 2.1
4	Residual Chlorine	mg/L	0.8	0.8	--	--	0.6	0.8	Min 0.5	APHA(22ndEdi)4500 Cl
5	Fecal Coliform	MPN/100 ml	430	350	350	540	350	280	< 1000	APHA (22ndEdi) 9221 C&E

*Below Detection limit

SR. NO	TEST PARAMETERS	Unit	ADANI HOSPITAL STP OUTLET							
			January-19		February-19		March-19		GPCB Permissible Limit	TEST METHOD
			04/01/2019	18/01/2019	04/02/2019	18/02/2019	04/03/2019	18/03/2019		
1	pH	--	7.60	7.70	7.20	7.36	7.45	8.05	--	IS3025(P11)83Re.02
2	Total Suspended Solids	mg/L	23	17	17	13	12	18	30	IS3025(P17)84Re.02
3	BOD (3 days @ 270 C)	mg/L	15	16	12	11	8.0	14	20	IS 3025 (P44)1993Re.03Edition 2.1
4	Residual Chlorine	mg/L	0.8	0.2	0.6	0.5	0.8	0.3	Min 0.5	APHA(22ndEdi)4500 Cl
5	Fecal Coliform	MPN/ 100 ml	280	240	280	240	350	430	< 1000	APHA (22ndEdi) 9221 C&E

*Below Detection limit

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMUDRA TOWNSHIP STP					
Sr. No.	Date of Sampling	Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Dioxide (SO ₂) µg/m ³	Oxides of Nitrogen (NO ₂) µg/m ³
1	03/10/2018	79.50	34.20	17.48	33.58
2	06/10/2018	64.49	30.25	15.21	27.35
3	10/10/2018	54.26	24.35	13.44	30.34
4	13/10/2018	68.40	33.41	11.64	25.31
5	17/10/2018	57.38	23.77	10.41	29.35
6	20/10/2018	70.51	42.72	14.19	32.40
7	24/10/2018	62.26	35.28	8.70	19.53
8	27/10/2018	78.69	41.22	16.33	28.53
9	31/10/2018	59.22	26.35	12.51	24.21
10	03/11/2018	58.37	23.41	10.50	19.44
11	07/11/2018	74.34	38.75	21.18	22.35
12	10/11/2018	66.75	30.58	17.54	35.77
13	14/11/2018	77.54	42.56	12.45	21.58
14	17/11/2018	61.34	26.48	14.53	18.60
15	19/11/2018	72.35	40.24	6.48	25.60
16	21/11/2018	63.51	27.64	9.50	23.17
17	26/11/2018	55.84	31.29	15.35	27.52
18	28/11/2018	73.57	35.39	7.56	16.55
19	03/12/2018	73.60	41.65	15.50	35.52
20	05/12/2018	62.64	26.36	7.82	20.46
21	10/12/2018	59.44	27.68	11.72	26.51
22	12/12/2018	76.36	46.29	8.60	17.70
23	17/12/2018	69.65	33.86	20.32	25.47
24	19/12/2018	79.47	47.36	19.32	23.36
25	24/12/2018	67.57	28.34	6.56	19.48
26	26/12/2018	58.68	35.64	13.90	34.63
27	31/12/2018	77.58	32.41	16.34	24.41
28	02/01/2019	75.77	43.30	22.62	27.63
29	07/01/2019	54.23	25.36	9.55	19.59
30	09/01/2019	68.55	29.46	7.58	21.35

Continue..

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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SAMUDRA TOWNSHIP STP					
Sr. No.	Date of Sampling	Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Dioxide (SO ₂) µg/m ³	Oxides of Nitrogen (NO ₂) µg/m ³
31	15/01/2019	78.31	44.35	17.39	36.37
32	16/01/2019	62.51	27.64	21.49	24.42
33	21/01/2019	84.33	34.56	18.40	28.67
34	23/01/2019	66.37	42.68	15.60	37.40
35	28/01/2019	57.58	20.64	8.22	22.78
36	30/01/2019	69.85	36.55	12.92	30.24
37	04/02/2019	79.60	33.44	14.57	22.26
38	06/02/2019	56.39	28.68	7.58	17.59
39	11/02/2019	64.55	39.78	20.54	23.85
40	13/02/2019	52.53	24.37	18.37	30.46
41	18/02/2019	60.41	29.67	10.36	18.64
42	20/02/2019	71.63	40.57	12.85	36.38
43	25/02/2019	50.42	27.52	8.59	19.42
44	27/02/2019	63.82	37.54	17.42	28.56
45	04/03/2019	46.27	18.44	17.65	35.63
46	06/03/2019	80.41	42.27	11.48	20.37
47	11/03/2019	75.68	27.35	8.40	17.64
48	13/03/2019	56.36	34.27	22.37	33.49
49	18/03/2019	67.81	28.76	16.46	28.76
50	20/03/2019	59.38	33.69	13.57	38.47
51	25/03/2019	71.51	36.42	9.40	21.34
	TEST METHOD	IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)	Gravimetric- CPCB - Method (Vol.I,May-2011)	IS:5182(Part II):Improved West and Gaeke	IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO₂)

H. T. Shah**Lab Manager****Dr. Arun Bajpai****Lab Manager (Q)**

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RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMUDRA TOWNSHIP CUSTOMER CARE					
Sr.No.	Date of Sampling	Particulate Matter (PM₁₀) µg/m³	Particulate Matter (PM_{2.5}) µg/m³	Sulphur Dioxide (SO₂) µg/m³	Oxides of Nitrogen (NO₂) µg/m³
1	03/10/2018	74.21	30.51	12.59	36.76
2	06/10/2018	69.31	36.57	8.31	24.63
3	10/10/2018	70.33	32.45	17.30	21.58
4	13/10/2018	53.45	27.67	15.36	33.26
5	17/10/2018	52.38	20.83	13.44	23.76
6	20/10/2018	64.83	35.42	11.51	20.58
7	24/10/2018	56.47	26.47	6.81	22.35
8	27/10/2018	72.63	38.67	14.57	31.25
9	31/10/2018	66.88	29.40	9.61	18.67
10	03/11/2018	50.33	20.57	17.50	15.69
11	07/11/2018	67.68	34.66	13.70	31.55
12	10/11/2018	58.72	28.67	9.62	28.35
13	14/11/2018	61.73	33.58	14.48	19.58
14	17/11/2018	53.43	18.70	12.64	27.53
15	19/11/2018	66.32	37.61	10.36	21.30
16	21/11/2018	55.31	23.60	7.20	17.31
17	26/11/2018	62.67	36.53	11.22	30.50
18	28/11/2018	51.22	21.53	15.22	25.64
19	03/12/2018	66.55	34.66	11.35	30.35
20	05/12/2018	57.68	23.48	16.57	18.45
21	10/12/2018	69.30	30.50	14.49	23.54
22	12/12/2018	59.33	25.39	13.56	26.56
23	17/12/2018	63.27	28.38	18.67	20.22
24	19/12/2018	74.28	46.54	15.70	33.26
25	24/12/2018	62.69	31.62	9.83	27.53
26	26/12/2018	50.43	29.42	6.58	31.62
27	31/12/2018	71.62	33.58	20.45	21.56
28	02/01/2019	70.55	40.35	20.57	22.74
29	07/01/2019	66.55	31.58	18.53	28.68
30	09/01/2019	72.50	26.39	10.21	29.35

Continue..**H. T. Shah****Lab Manager****Dr. Arun Bajpai****Lab Manager (Q)**

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SAMUDRA TOWNSHIP CUSTOMER CARE					
Sr.No.	Date of Sampling	Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Dioxide (SO ₂) µg/m ³	Oxides of Nitrogen (NO ₂) µg/m ³
31	15/01/2019	56.37	25.59	12.33	33.28
32	16/01/2019	69.32	33.62	17.62	36.52
33	21/01/2019	78.61	30.58	22.52	39.22
34	23/01/2019	58.66	37.57	9.55	32.22
35	28/01/2019	64.68	41.22	19.65	34.52
36	30/01/2019	54.30	23.56	16.21	20.34
37	04/02/2019	75.63	30.46	8.78	33.89
38	06/02/2019	61.63	33.41	15.32	24.57
39	11/02/2019	58.64	29.42	17.65	18.45
40	13/02/2019	64.39	35.32	10.60	27.72
41	18/02/2019	71.29	26.22	22.87	35.61
42	20/02/2019	50.37	19.61	19.43	32.72
43	25/02/2019	73.54	38.69	16.33	28.66
44	27/02/2019	54.56	31.25	20.25	23.76
45	04/03/2019	56.31	20.44	15.38	30.43
46	06/03/2019	60.22	27.47	14.59	29.50
47	11/03/2019	70.67	24.23	22.42	25.36
48	13/03/2019	47.22	18.62	19.48	20.52
49	18/03/2019	54.20	22.69	10.34	18.62
50	20/03/2019	65.68	36.48	20.30	26.37
51	25/03/2019	59.44	28.26	18.65	32.60
52	27/03/2019	48.20	25.22	23.31	28.68
	TEST METHOD	IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)	Gravimetric- CPCB - Method (Vol.I,May-2011)	IS:5182(Part II):Improved West and Gaeke	IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO ₂)

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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RESULT NOISE LEVEL MONITORING**Result of Noise level monitoring [Day Time]**

SR. NO.	Name of Location	SAMUNDRA TOWNSHIP STP					
		Result [Leq dB(A)]					
		17/10/2018	21/11/2018	19/12/2018	25/01/2019	22/02/2019	08/03/2019
1	6:00-7:00	62.1	64.1	61.7	65.2	62.4	57.1
2	7:00-8:00	55.5	57.0	55.4	62.1	60.2	60.4
3	8:00-9:00	52.6	55.2	59.1	62.7	65.3	59.1
4	9:00-10:00	58.6	58.2	61.7	67.5	67.2	62.4
5	10:00-11:00	60.8	60.3	65.8	63.1	67.2	61.4
6	11:00-12:00	65.2	65.2	65.1	60.9	70.2	63.1
7	12:00-13:00	62.7	60.4	59.1	63.5	73.8	65.4
8	13:00-14:00	59.1	61.1	62.7	65.2	69.3	62.4
9	14:00-15:00	60.4	57.5	67.4	62.4	65.2	62.8
10	15:00-16:00	65.9	65.7	62.4	69.4	63.9	62.9
11	16:00-17:00	62.9	64.7	61.8	72.4	67.3	63.4
12	17:00-18:00	64.7	63.6	60.9	74.1	68.3	61.7
13	18:00-19:00	68.0	71.1	63.8	70.2	62.1	64.7
14	19:00-20:00	60.5	61.9	62.8	69.5	63.2	67.1
15	20:00-21:00	56.6	59.6	65.1	65.2	65.2	65.1
16	21:00-22:00	58.1	59.9	61.8	63.4	66.9	61.8
Day Time Limit*		75 Leq dB(A)					

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	SAMUNDRA TOWNSHIP STP					
		Result [Leq dB(A)]					
		17/10/2018 & 18/10/2018	21/11/2018 & 22/11/2018	19/12/2018 & 20/12/2018	25/01/2019 & 26/01/2019	22/02/2019 & 23/02/2019	08/03/2019 & 09/03/2019
1	22:00-23:00	61.7	62.0	65.1	58.4	60.4	63.4
2	23:00-00:00	60.0	61.2	58.7	60.4	61.5	61.2
3	00:00-01:00	55.5	55.0	53.7	60.2	59.8	60.2
4	01:00-02:00	51.2	51.7	52.9	63.4	62.1	62.1
5	02:00-03:00	51.4	54.0	52.1	61.4	60.4	61.2
6	03:00-04:00	56.6	59.6	56.4	63.2	60.8	62.4
7	04:00-05:00	55.6	57.0	55.9	61.7	61.7	63.1
8	05:00-06:00	55.4	54.9	58.4	60.3	62.5	65.3
Night Time Limit*		70 Leq dB(A)					

H. T. Shah

Lab Manager



Dr. Arun Bajpai

Lab Manager (Q)

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Result of Noise level monitoring [Day Time]

SR. NO.	Name of Location	SAMUNDRA TOWNSHIP CUSTOMER CARE					
		Result [Leq dB(A)]					
	Sampling Date & Time	06/10/2018	07/11/2018	03/12/2018	12/01/2019	07/02/2019	15/03/2019
1	6:00-7:00	54.3	53.6	57.3	55.1	60.8	56.1
2	7:00-8:00	61.8	61.9	55.5	60.4	63.4	59.4
3	8:00-9:00	61.7	63.0	60.3	62.1	59.4	61.7
4	9:00-10:00	60.4	62.9	65.3	65.4	63.1	63.1
5	10:00-11:00	68.6	67.4	61.2	61.7	60.7	61.7
6	11:00-12:00	65.7	64.2	61.7	65.4	60.8	62.7
7	12:00-13:00	64.4	62.7	63.8	68.4	63.4	68.4
8	13:00-14:00	70.3	67.4	65.3	61.7	65.1	64.1
9	14:00-15:00	70.5	71.3	62.7	65.1	65.2	62.4
10	15:00-16:00	58.9	61.7	62.3	66.1	66.8	68.4
11	16:00-17:00	59.0	57.3	65.3	68.4	62.7	62.4
12	17:00-18:00	61.1	63.1	62.3	63.4	67.1	63.4
13	18:00-19:00	57.7	59.0	63.7	61.8	65.7	65.1
14	19:00-20:00	64.4	66.1	65.3	60.4	64.1	67.4
15	20:00-21:00	64.8	66.9	62.4	62.7	62.8	63.4
16	21:00-22:00	62.3	59.4	65.4	61.8	63.8	65.2
Day Time Limit*		75 Leq dB(A)					

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	SAMUNDRA TOWNSHIP CUSTOMER CARE					
		Result [Leq dB(A)]					
	Sampling Date & Time	06/10/2018 & 07/10/2018	07/11/2018 & 08/11/2018	03/12/2018 & 04/12/2018	12/01/2019 & 13/01/2019	07/02/2019 & 08/02/2019	15/03/2019 & 16/03/2019
1	22:00-23:00	65.2	63.4	62.8	60.3	60.3	61.4
2	23:00-00:00	67.9	69.4	65.7	60.5	60.5	60.4
3	00:00-01:00	57.7	57.5	55.4	57.3	57.3	54.1
4	01:00-02:00	57.5	56.5	59.8	52.6	52.6	56.4
5	02:00-03:00	54.7	55.8	56.8	54.7	54.7	59.1
6	03:00-04:00	52.8	51.8	55.4	50.4	50.4	51.4
7	04:00-05:00	56.2	55.4	53.4	59.4	59.4	60.1
8	05:00-06:00	61	58.5	68.4	62.5	62.5	60.3
Night Time Limit*		70 Leq dB(A)					

H. T. Shah**Lab Manager****Dr. Arun Bajpai****Lab Manager (Q)**

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RESULTS OF D.G. STACK MONITORING

25/11/2018					
SR. NO.	TEST PARAMETERS	Unit	Adani Hospital	GPCB Limit	Test Method
			D.G. Set* (500 KVA)		
1	Particulate Matter	mg/Nm ³	28.76	150	IS:11255 (Part-I):1985
2	Sulphur Dioxide	ppm	4.94	100	IS:11255 (Part-II):1985
3	Oxide of Nitrogen	ppm	34.67	50	IS:11255 (Part-VII):2005
4	Carbon Monoxide	mg/m ³	9.10	Not Specified	Digital Gas Analyzer
5	Hydro Carbon NMHC	ppm	BDL*	Not Specified	Gas Chromatography

*DG sets are used as standby, so stack monitoring is done on quarterly basis. Results on 15 % O₂ Correction when Oxygen is greater than 15 %**H. T. Shah****Lab Manager****Dr. Arun Bajpai****Lab Manager (Q)**

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MINIMUM DETECTION LIMIT [MDL]

Ambient Air Parameter		
Sr. No.	Test parameter	MDL
1	Particulate Matter (PM10) ($\mu\text{g}/\text{m}^3$)	10
2	Particulate Matter (PM 2.5) ($\mu\text{g}/\text{m}^3$)	10
3	Sulphur Dioxide (SO_2) ($\mu\text{g}/\text{m}^3$)	5
4	Oxides of Nitrogen ($\mu\text{g}/\text{m}^3$)	5
5	Hydrogen Sulphide as H_2S ($\mu\text{g}/\text{m}^3$)	6

STP Water parameter (mg/L)		
Sr. No.	Test parameter	MDL
1	pH	2
2	Total Suspended Solids (mg/L)	2
3	BOD (3 days @ 270 C) (mg/L)	1
4	Residual Chlorine (mg/L)	0.2
5	Fecal Coliform (MPN INDEX/100 mL)	1.8

Stack parameter		
Sr.No.	Test parameter	MDL
1	Particulate Matter (mg/Nm^3)	10
2	Sulphur Dioxide (ppm)	1.52
3	Oxides of Nitrogen (ppm)	2.65
4	Carbon Monoxide (mg/Nm^3)	0.1
5	Hydro Carbon NMHC (ppm)	1.0

H. T. Shah**Lab Manager****Dr. Arun Bajpai****Lab Manager (Q)**

ANNEXURE – 3

DISTROMED KUTCHH SERVICES PVT. LTD.

MONTH: Mar'19

Date	Challan No.	BMW WASTE CATEGORIES				Total Kg.	Sign.
		Category Yellow	Category Red	Category Blue	Category White		
		Yellow Bag	Red Bag	Blue Bag/*C.B.	* PPC		
1	0061848	5.6	13.3	2	0	20.9kg	<u>km</u>
2							
3	00618541	6.2	4.3	2.5	0.2	13.2kg	<u>km</u>
4							
5							
6	00618592	0	0	0	0	0kg	<u>km</u>
7							
8	00618640	16.2	15.4	10	0	41.6	<u>km</u>
9							
10							
11	00618705	8	4.3	2.6	0	14.9kg	<u>km</u>
12							
13	00618762	12.6	11.9	6.2	0	30.7kg	<u>km</u>
14							
15	00618821	13.6	12.3	1.2	0	27.1kg	<u>km</u>
16							
17							
18	00618876	11.2	8.7	6.3	0	26.2kg	<u>km</u>
19							
20	00618939	12.1	9.2	1	0	22.3kg	<u>km</u>
21							
22	00618998	11.4	7.3	4.2	0	22.9kg	<u>km</u>
23							
24							
25	00619041	11.4	7.3	4.2	0	22.9kg	<u>km</u>
26							
27	00619093	6.2	8.6	1	0	15.8kg	<u>km</u>
28							
29	00619156	4.1	2.4	3.6	0	10.1kg	<u>km</u>
30							
31							
		118.6	105	44.8	0.2	268.6	<u>km</u>

* PPC : Puncture Proof Container

* C.B. : Cardboard Box

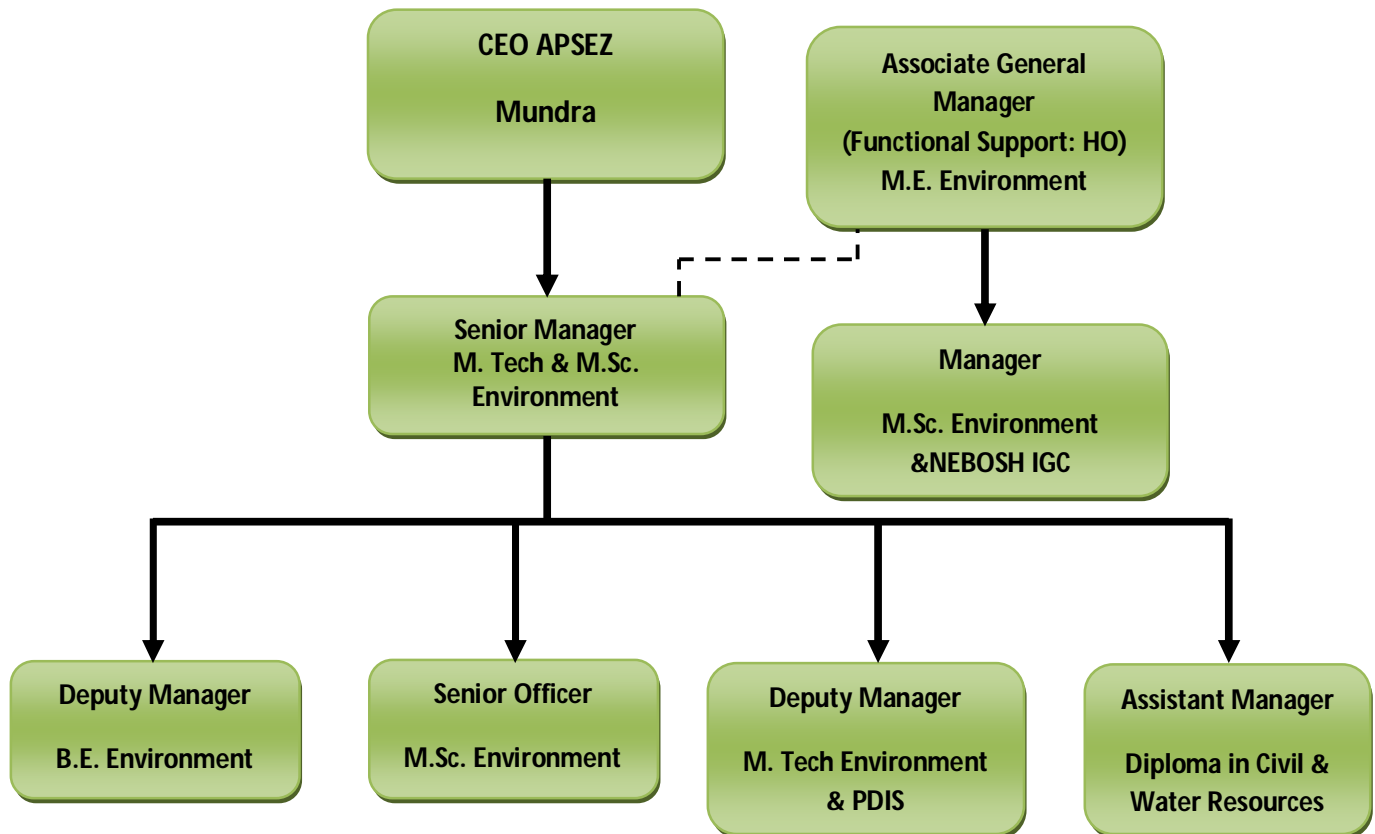
ANNEXURE – 4

Details of Greenbelt development at APSEZ, Mundra

LOCATION	Total Green Zone Detail Till Up to March - 2019				
	Area (In Ha.)	Trees (Nos.)	Palm (Nos.)	Shrubs (SQM)	Lawn (SQM)
SV COLONY	69.53	32480.00	7298.00	68327.00	95019.00
PORT & NON SEZ	79.87	139992.00	19205.00	74210.78	61295.18
SEZ	114.72	227835.00	17302.00	220583.60	28162.03
MITAP	2.48	8168.00	33.00	3340.00	4036.00
WEST PORT	86.04	186827.00	51342.00	24112.00	22854.15
AGRI PARK	8.94	17244.00	1332.00	5400.00	2121.44
SOUTH PORT	14.25	25530.00	3470.00	3882.00	3327.26
Samundra Township	55.63	52481.00	11818.00	20078.07	46571.67
Productive Farming (Vadala Farm)	23.79	27976.00	0.00	0.00	0.00
TOTAL (APSEZL)	455.23	718533.00	111800.00	419933.45	263386.73

ANNEXURE – 5

Organogram of Environment Management Cell, APSEZ, Mundra



ANNEXURE – 6

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2016 – 17	2017 – 18	2018 – 19	2018 – 19
1.	Environmental Study / Audit and Consultancy	36.78	9.0	6.7	30.5
2.	Legal & Statutory Expenses	4.76	5.07	4.42	5.7
3.	Environmental Monitoring Services	27.95	27.02	20.36	36.0
4.	Hazardous / Non Hazardous Waste Management & Disposal	12.52	65.62	95.72	84.8
5.	Environment Days Celebration	6.71	2.85	0.28	10.0
6.	Treatment and Disposal of Bio-Medical Waste	1.27	1.13	1.21	1.56
7.	Mangrove Plantation, Monitoring & Conservation	72.38	60.0	47.0	50.0
8.	Other Horticulture Expenses	555.00	547.0	579.32	579.32
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	61.50	70.02	144.29	153.9
10.	Expenditure of Environment Dept. (Apart from above head)	131.83	102.15	109.28	117.29
Total		910.70	889.86	1008.58	1069.07