



#### APSEZL/EnvCell/2016-17/047

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Date: 25.11.2016

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: <a href="mailto:rowz.bpl-mef@nic.in">rowz.bpl-mef@nic.in</a>

Sub

: Half yearly Compliance report for Environment and CRZ Clearance for the "Multi Product SEZ, Desalination, Sea Water Intake, Outfall Facility and Pipeline at Mundra, Dist. Kachchh, Gujarat of M/s. Adani Ports and SEZ Limited"

Ref

: Environment and CRZ clearance granted to M/s Adani Ports and SEZ Limited vide letter dated 15<sup>th</sup> July, 2014 bearing MoEF letter No. 10-138/2008-IA.III.

#### 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 / CRZ Clearance for the period of April – 2016 to September – 2016 is enclosed here for your records. The stated information is also provided in form of a CD (soft copy).

Thank you,

Yours Faithfully,

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

Authorized Signatory

Encl: As above

Copy to:

- 1) The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003
- 2) Zonal Officer, Regional Office, CPCB Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara 390 023
- 3) Member Secretary, GPCB Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar 382 010
- 4) Deputy Secretary, Forests & Environment Department, Block 14, 8<sup>th</sup> floor, Sachivalaya, Gandhi Nagar 382 010
- 5) Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham, 370201

Adani Ports and Special Economic Zone Ltd Adani House PO Box No 1 Mundra, Kutch 370 421

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Gujarat, India



### Environmental Clearance Compliance Report of

Multi Product SEZ, Mundra, Dist. Kutch, Gujarat

of

Adani Ports and SEZ Limited

for Period: April-2016 to September-2016



From : April,16 To : September,16

Status of the conditions stipulated in Environment and CRZ Clearance

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From : April,16

To : September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## Copy of Environmental / CRZ Clearance

#### F. No. 10-138/2008-IA.III Government of India Ministry of Environment & Forests

Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi - 110 003.

Dated: July 15, 2014

To M/s Adani Port and SEZ Ltd Adani House, Near Mithakhali Six Roads, Navarangpura, Ahmedabad, Gujarat- 380 009.

Subject: EC for proposed Multi- Product SEZ and CRZ clearance for Desalination, sea water intake, outfall facility and pipeline, at Mundra by M/s Adani Port and SEZ Ltd. – Reg.

This has reference to letter No. ENV-10-2010-1601-E dated 27.03.2012 of the Director (Environment) & Additional Secretary, Govt. of Gujarat and your subsequent letters dated 10.05.2012, 14.05.2012, 26.05.2012 and 29.04.2013 seeking prior Environmental and CRZ Clearance for the above project under the EIA Notification, 2006 and Coastal Regulation Zone Notification, 2011. The proposal has been appraised as per prescribed procedure in the light of provisions under the EIA Notification, 2006 and the Coastal Regulation Zone Notification, 2011 on the basis of the mandatory documents enclosed with the application viz., the Questionnaire, EIA, EMP, recommendations of the State Coastal Zone Management Authority and the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on 16<sup>th</sup> –17<sup>th</sup> April, 2012, 4<sup>th</sup> –5<sup>th</sup> June, 2012 and 9<sup>th</sup> -10<sup>th</sup> July, 2012.

2. It is, interalia, noted that the project involves development of multi product SEZ on a plot area of 18,000 ha. of which 6641.2784 ha. is presently notified under Special Economic Zone (SEZ). As per the proponent, the Multi product SEZ at Mundra comprising of various processing zones, non-processing zones, warehousing zones, Road Network (trunk as well as internal), Bridges or culverts over natural drains, Rail Network, IT-Telecommunication network, Electrical Network, Water supply, conservation & drainage Network, Effluent collection network, Desalination Plant with proposed intake & outfall locations, Common Effluent Treatment Plants & Sewage Treatment Plants, Natural Gas line network, Social Infrastructure, Existing Airstrip, Municipal Solid Waste Disposal site, utilities & supporting infrastructure etc. For the first phase of development total water requirement will be 150 MLD. Power requirement will be approx. 360 MW. Desalination plant of 150 MLD output capacity is proposed. 11 MLD water will be sourced through Narmada water pipeline. Two CETP each of capacity 50 MLD and 17 MLD as well as STP of 62 MLD is proposed. This will require 375 MLD of seawater intake and 241 MLD of treated waste water outfall into the sea. For final phase of development total water requirement will be 450 MLD and power requirement will be approx. 1000 MW.

- 3. A suitable seawater intake point has been identified on the eastern end of the approved East Port Basin at Latitude 22°48'30.76"N; Longitude 69°46'34.06"E where a depth of 6 m below CD would be available after the port development. As per modelling study the combined discharge of 241MLD which includes 16MLD from CETP and 225 MLD from desalination plant as RO reject is expected having 57.57ppt of salinity, 14.41 mg / 1 of BOD and 94.39 mg/l of COD. After careful consideration of many aspects a suitable outfall location is identified on the west of the Eastern basin at Latitude 22°46'44.04"N; Longitude 69°45'5.51"E taking advantage of the expected 7.5m below CD basin depth. The outfall pipe line length is approximately 5.7 km and diffuser designed to attain a minimum dilution of 40-50 times.
- 4. The Centre for Earth Science Studies demarcated HTL, LTL and CRZ area. As per the CESS report and GCZMA, out of 6641.2784 ha of SEZ area, 1473.39 ha area falls within CRZ area. No SEZ industrial activity is proposed in the CRZ area. Only the Desalination plant pipeline for intake and outfall is proposed in CRZ areas. The Gujarat SCZMA in their 14<sup>th</sup> meeting held on 27-02-2012 considered the proposal of intake, outfall facilities, Desalination plant and laying pipeline and recommended the same vide their letter no.ENV-10-2010-1601-E dated 27<sup>th</sup> March 2012. Gujarat Pollution Control Board has granted Consent to Establishment of Marine outfall (NOC) vide letter dated 10.11.2011. The length of the intake will be approximately 5 Kms. As the sea water intake demand is 15000m3/h, drawal by pipe system is suitable by incorporating a wet well structure at the location. The intake point proposed is within the proposed East Port basin with a depth of 6 m below CD. The projected quantity of water can be transported through a single pipe of 1.3 m dia with a flow velocity of 3 m/s or with a 1.6 m pipe with flow velocity of 2m/s.
- 5. The Expert Appraisal Committee, after due consideration of the relevant documents submitted by the project proponent and additional clarifications furnished in response to its observations, have recommended for the grant of Environment and CRZ Clearance for the SEZ in an area of 8481.2784 ha. However, SEZ for 1840 ha has been approved in principle by Ministry of Commerce and Industries.
- 6. Hon'ble High Court of Gujarat in WP No. 21 of 2013 vide order dated 13.01.2014 has directed that the Ministry to take a decision of its own so far as the issue of grant of environmental clearance is concerned considering the position prevailing as on date and also the aspects which have been highlighted by us in this judgment, within a period of thirty days from the date of this judgment without fail. Further, vide order dated 27.01.2014 Hon'ble Supreme Court in SLP No. 1526 of 2014 which was filed against the Order of High Court by the Respondent-1 has passed order that in case, the MOEF is unable to complete the process within the time stipulated by the High Court, it will be open for them to approach this Court for extension of time. Accordingly, Ministry has filed a petition before the Hon'ble Supreme Court seeking extension of two months time.
- 7. It is noted from the Judgement dated 13.01.2014 of Hon'ble High Court of Gujarat in PIL 21 of 2013 the Hon'ble Court has construed, the grant of lease to units prior to

obtaining EC by M/s APSEZL as violation of EIA, Notification, 2006. Therefore, according to the OMs dated 12.12.2012 and 27.06.2013, PP was addressed for Board Resolution and the State Government was addressed to take credible action against the PP for the violation. Direction under Section 5 of E(P)Act, 1986 was also issued to APSEZ not to take up and allow any further construction activity within SEZ till the grant of clearance.

- 8. Further, Hon'ble Supreme Court video order dated 02.05.2014 in SLP 1526 of 2013 had ordered for stay of Ministry's letter dated 3.04.2014 addressed to Government of Gujarat to initiate legal action for the violation, also directed that the Ministry to complete the process of EC within eight weeks.
- 9. M/s APSEZ Ltd. has stated that the Board resolved that since the matter is subjudice before the Hon'ble Supreme Court of India, will fully abide by the out come of the decision of the Hon'ble Supreme Court.
- 10. In view of the above and to comply with the orders of Hon'ble Courts, Ministry hereby accords necessary Environment Clearance for proposed Multi- Product SEZ in an area of 6641.2784 ha and CRZ clearance for desalination, seawater intake, outfall facility and pipeline for as per the provisions of Environmental Impact Assessment Notification 2006 and its subsequent amendments and Coastal Regulation Zone Notification, 2011, subject to strict compliance of the terms and conditions as follows:

#### 11. PART A - SPECIFIC CONDITIONS

- (i) PP shall abide by the final order/decision of Hon'ble Supreme Court in SLP (Civil) no. 1526/2014 and connected matters.
- (ii) Properly conserve the creeks, river and the mangroves area in the area.
- (iii) Ensure that mouths of all the creeks are kept open to ensure flushing of the creeks.
- (iv) Bring the creeks to the condition as was seen in the satellite map of 2005 which will be a "reference" satellite map and a copy of which shall be sent to you separately.
- (v) Submit once in a year latest satellite map which can be compared with the reference satellite map of 2005 to ensure that no modification in the creeks, rivers, mangroves and mouth of creeks have taken place.
- (vi) Any direction issued by the MoEF with respect to the report submitted by Ms Sunita Narain Committee shall be complied with by the Proponent as applicable.
- (vii) At its cost get Inspection study done once in a year by the organizations like NEERI or any organization approved by this Ministry to (i) ensure compliance of all the EC conditions (ii) development of SEZ meeting of the environment norms, and (iii) advise any mid-term correction that can be introduced depending on the recommendation of the independent Third Party.

- (viii) "Consent for Establishment" for the SEZ shall be obtained from Gujarat Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.
- (ix) PP shall get detailed bathymetry done for all the creeks and rivers within Port and SEZ areas along with mapping of co-ordinates, running length, HTL, CRZ boundary, mangrove areas including buffer zone through NCSCM / NIOT. PP shall also get prepared a detailed action plan for conservation and protection of creeks/ mangrove area etc through NCSCM / NIOT and submit the same to GCZMA for their examination and recommendation. GCZMA will submit its recommendations to MoEF for approval.
- (x) PP shall demarcate the CRZ area on land with GPS coordinates in consultation with GCZMA/ the agency which has done the HTL/LTL demarcation for the area. There shall be no allotment of plot/s in CRZ area to industries. No industrial activity within CRZ area except the port and harbor & the foreshore facilities shall be allowed as committed
- (xi) Till the approval of action plan for conservation and protection of creeks/mangrove area, the CRZ area within SEZ shall be demarcated as "No Development Zone". PP shall not allow/undertake any development in CRZ area of SEZ.
- (xii) The implementation of action plan approved by the MoEF shall be monitored by the NCSCM/ NIOT. Compliance with action plan shall be submitted to GCZMA and to MoEF, RO. at Bhopal along with six monthly monitoring report.
- (xiii) PP shall earmark separate budget for the implementation of the above action plan. The details of the expenditure shall be submitted to GCZMA and to MoEF, RO. at Bhopal along with six monthly monitoring report.
- (xiv) All the industry in SEZ shall be connected through impervious drainage lines to the STP/ CETP for the discharge of their sewage or industrial effluent. There shall not be any discharge to creeks / rivers. PP shall be accountable for implementing this condition and necessary clause shall be incorporated in the MoU while allotting the plot to the individual industries
- (xv) PP shall not carry out any river course modification.
- (xvi) The individual industrial units shall obtain prior EC under EIA Notification, 2006 as applicable.
- (xvii) Proponent shall identify 200 ha of land for mangrove plantation as per the condition laid by SEAC.
- (xviii) 50 meter buffer from the existing mangrove area should be provided for any developmental activity,

- (xix) Proponent shell develop the green belt with 3 layers of canopy all along the periphery.
- (xx) All the recommendation of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.
- (xxi) There shall be no disturbance to the sand dunes. The pipelines shall be laid using advanced method viz. Horizontal Directional Drilling (HDD) so as to avoid disturbance to the sand dunes/creeks/mangroves.

#### PART – B. GENERAL CONDITIONS

#### Construction Phase.

- (i) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (ii) A First Aid Room will be provided in the project both during construction and operation of the project.
- (iii) All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- (iv) Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed, taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- (v) Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- (vi) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- (vii) Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Gujarat Pollution Control Board.
- (viii) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.

- (ix) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- (x) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- (xi) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/GPCB.
- (xii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003. (The above condition is applicable only if the project site is located within 100 Kms of Thermal Power Stations).
- (xiii) Ready mixed concrete must be used in building construction.
- (xiv) Storm water control and its re-use should be regulated as per CGWB and BIS standards for various applications.
- (xv) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other referred best practices.
- (xvi) Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.
- (xvii) Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.
- (xviii) Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.
- (xix) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
- (xx) Roof should meet prescriptive requirements as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirements.
- (xxi) Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all airconditioned spaces while it is aspirational for non-airconditioned spaces by use of appropriate thermal insulation material to fulfil these requirement.

- (xxii) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightning etc.
- (xxiii) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.
- (xxiv) Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it is found that construction of the project has been started without obtaining environmental clearance.

#### **Operation Phase**

- (i) The PP while issuing the allotment letter to individual member units shall specifically mention the allowable maximum quantity of water usage and effluent generated by each member unit.
- (ii) The PP shall establish an environmental monitoring cell with all the potential polluting units as members to review the environmental monitoring data and suggest improvements.
- (iii) Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralised treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards of the Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.
- (iv) The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry / inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
- (v) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operational phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Low sulphur diesel should be used. The location of the DG sets may be decided in consultation with the Gujarat Pollution Control Board.
- (vi) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- (vii) Green belt of adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.

- (viii) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
- (ix) Rain water harvesting for roof run- off and surface run- off, as plan submitted should be implemented.
- (x) The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.
- (xi) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- (xii) A Report on the energy conservation measures conforming to energy conservation norms finalised by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & D Factors etc and submitted to the Ministry along with six monthly monitoring report.
- (xiii) Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be an integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Solar panels may be used to the extent possible.
- (xiv) Adequate measures should be taken to prevent odour problems from solid waste processing plant and STP.
- (xv) The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
- (xvi) The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.
- (xvii) Adequate drinking water facility be provided.
- (xviii) Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.
- (xix) Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for portion of the apartments should be provided.
- (xx) Ozone depleting substance (Regulation & Control) Rules should be followed while designing the air conditioning system of the project.
- 12. Officials from the Regional Office of MOEF, Bhopal who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection. A complete set of all the



documents submitted to MoEF should be forwarded to the CCF, Regional office of MOEF, Bhopal

- 13. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.
- 14. The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- 15. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
- 16. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
- 17. The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Clearance and copies of clearance letters are available with the Gujarat Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a>. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.
- 18. Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.
- 19. "Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010".
- 20. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
- 21. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

- 22. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
- 23. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

(Lalit Kapur)
Director (IA-III)

#### Copy to:

- 1. The Principal Secretary, Forest and Environment Department, Block no. 14/8 floor Sachivalaya, Gandhinagar 382 010 Gujarat.
- 2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi 110 032.
- 3. The Member Secretary, Gujarat Coastal Zone Management Authority & Director, (Environment) Forests & Environment Department, Block No. 14, 8<sup>th</sup> Floor, Sachivalaya, GandhiNagar-382.
- 4. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravishankar Nagar, Bhopal 462016 (M.P.)
- 5. The Member Secretary, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhi Nagar 382043, Gujarat
- 6. Director (EI), Ministry of Environment and Forests.
- 7. Guard File.
- 8. Monitoring File.

(Lalit Kapur) Director (IA-III)



From : April,16
To : September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# Compliance Report of Environmental / CRZ Clearance



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

M/s. APSEZL has been granted Environmental / CRZ clearance vide letter no. 10-138/2008-IA.III, dated 15<sup>th</sup> July, 2014 for development of "Multi Product SEZ, Desalination, Sea Water Intake, Outfall Facility and Pipeline".

Activities / Facilities approved are as below:

Facilities / Components Approved	Capacity	Status as on 30.09.2016
Desalination Plant	150 MLD	Construction has not been started.
Sea water Intake &	375 MLD: Intake	Construction has not been started.
Outfall Facility	241 MLD: Outfall	
Common Effluent Treatment Plant	17 MLD	MPSEZ Utilities Pvt. Ltd. (MUPL) has been granted environmental clearance for CETP having 17.0 MLD capacity. Out of which at present one module of CETP having 2.5 MLD capacity has been constructed and is in operation.
	50 MLD	Construction has not been started.
Social Infrastructure Projects		Adani Mundra SEZ Infrastructure Pvt. Ltd. (AMSIPL) has been granted environmental clearance for township and area development project within 255 Ha. area.
Sewage Treatment Plant	62 MLD	Construction has not been started.
Airstrip		Airstrip has been developed within SEZ area after obtaining requisite permissions.
Municipal Solid Waste Site		Construction has not been started. Only boundary wall and leveling of area carried out.
Free Trade & Ware House Zone (FTWZ)		Construction work is under progress.



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

#### List of Industrial Units within SEZ area

Sr.	Name of Unit	Nature of Business	Status
No.			
1	SKAPS INDUSTRIES	Textile	Operation
2	TERRAM EOSYNTHETICS	Textile	Operation
3	AHLSTROM	Textile	Operation
4	ASHAPURA GARMENTS	Textile	Operation
5	THERMAX	Textile	Operation
6	OWS	Ware House	Operation
7	DORF KETAL	Chemical	Operation
8	OCCL	Chemical	Operation
9	AADI OIL	Oil	Operation
10	GARG TUBES LLP	Steel	Under construction
11	EMPEZAR LOGISTICS	Ware House	Operation
12	SEABIRD CFS	CFS	Operation
13	HONEYCOMB CFS	CFS	Operation
14	ALL CARGO CFS	CFS	Operation
15	MUNDHRA CFS	CFS	Operation
16	SAURASHTRA CFS	CFS	Operation
17	FORBES CFS	CFS	Operation
18	TRANSWORLD CFS	CFS	Operation
19	MICT CFS	CFS	Operation
20	MSTPL	Electronics	Under construction
	(Mundra Solar Technopark Pvt. Ltd.)	Manufacturing	
		Cluster	
21	STEINWEIGE	FTWZ	Under construction

#### Note:

Environmental / CRZ clearance has been granted for additional facilities like Processing Zones, Non-processing Zones, Warehousing Zones, Road Network (Trunk as well as Internal), Bridges or Culverts over natural drain, Rail Network, IT-Telecommunication Network, Electric Network, Water Supply, Conservation & Drainage Network, Effluent Collection Network and Utilities & Supporting Infrastructure within SEZ area.

Boundary wall is constructed along the project periphery. In some of areas level raising and area development of SEZ area, wherever required is also under progress.



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

iccc.	letter No. 10-138/2008-IA.III dated 15th July, 2014			
Sr. No.	Specific Conditions	Compliance Status as on 30-09-2016		
Part ·	- A: Specific Conditions			
i.	PP shall abide by the final order/decision of Hon'ble Supreme Court in SLP (Civil) no. 1526/2014 and connected matters.	Point noted and will be complied.		
ii.	Properly conserve the creeks, river and the mangroves area in the area.	Complied. At locations where the road/rail passes through creeks/river, we have constructed bridges/culverts to allow free flow of water. Details submitted to the MoEF & CC along with half yearly compliance report Oct – 2015 to March – 2016.		
iii.	Ensure that mouths of all the creeks are kept open to ensure flushing of the creeks.	Complied. All the creek mouths present in our area are open having no obstruction that allows flushing of sea water in to the creeks.		
iv.	Bring the creeks to the condition as was seen in the satellite map of 2005 which will be a "reference" satellite map and a copy of which shall be sent to you separately.	Complied.  Based on the final direction issued by MoEF&CC vide their letter dated 18.09.2015, APSEZL has submitted representation vide letter dated		
V.	Submit once in a year latest satellite map which can be compared with the reference satellite map of 2005 to ensure that no modifications in the creeks, rivers, mangroves and mouth of creeks have taken place.	23.05.2016. As per the directions of MoEF&CC these conditions stands null & void.		
Vi.	Any direction issued by the MoEF with respect to the report submitted by Ms Sunita Narain Committee shall be complied with by the Proponent as applicable.	Complied.  MoEF&CC has issued an order vide letter dated 18.09.2015 with respect to the report submitted by Ms. Sunita Narain committee. A point wise compliance of the MoEF&CC order is enclosed as <b>Annexure – 1.</b>		



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

	etter No. 10-138/2008-IA.III dated 15th July, 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.		30-09-2016	
vii.	At its cost get Inspection study done once in a year by the organizations like NEERI or any organization approved by this Ministry to - (i) ensure compliance of all the EC conditions (ii) development of SEZ meeting of the environment norms, and (iii) advise any mid-term correction that can be introduced depending on the recommendation of the independent Third Party.	Complied. Details submitted to the MoEF & CC along with half yearly compliance report Oct - 2015 to March - 2016.	
viii.	"Consent for Establishment" for the SEZ shall be obtained from Gujarat Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	Complied.  Details submitted to the MoEF & CC along with half yearly compliance report Oct – 2015 to March – 2016 and there is no further change.	
ix.	PP shall get detailed bathymetry done for all the creeks and rivers within Port and SEZ areas along with mapping of coordinates, running length, HTL, CRZ boundary, mangrove area including buffer zone through NCSCM/NIOT. PP shall also get prepared a detailed action plan for conservation and protection of creeks/mangrove area etc through NCSCM/NIOT and submit the same to GCZMA for their examination and recommendation. GCZMA will submit its recommendations to MoEF for approval.	APSEZL approached NCSCM to carry out the said study. Sr. Scientist have done site visit and based on the same they have submitted their proposal. Said proposal was discussed with GCZMA in their 28 <sup>th</sup> committee meeting on 22 <sup>nd</sup> April'2016. NSSCM has initiated the study as per the scope.	
×.	PP shall demarcate the CRZ area on land with GPS coordinates in consultation with GCZMA/ the agency which has done the HTL/LTL demarcation for the area.  There shall be no allotment of plot/s in CRZ area to industries. No industrial activity within CRZ area except the port and harbor & the foreshore facilities shall be allowed as committed.	<u> </u>	



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

letter	ter No. 10-138/2008-IA.III dated 15th July, 2014		
Sr. No.	Specific Conditions	Compliance Status as on 30-09-2016	
xi.	Till the approval of action plan for conservation and protection of creeks/mangrove area, the CRZ area within SEZ shall be demarcated as "No Development Zone". PP shall not allow/undertake any development in CRZ area of SEZ.	Work for preparation of action plan for conservation and protection of action plan is already initiated by NCSCM.	
xii.	The implementation of action plan approved by the MoEF shall be monitored by the NCSCM/NIOT. Compliance with action plan shall be submitted to GCZMA and to MoEF, RO at Bhopal along with six monthly monitoring report.	Point noted.  Work for preparation of action plan for conservation and protection of action plan is already initiated by NCSCM.	
xiii.	PP shall earmark separate budget for the implementation of the above action plan. The details of the expenditure shall be submitted to GCZMA and to MoEF, RO at Bhopal along with six monthly monitoring report.	Complied. Approx. Cost of the proposal submitted by NCSCM is Rs. 3.15 Cr. The said amount is allocated separately in the budget. Contract is awarded to NCSCM, who have initiated the study as per the scope.	
xiv.	All the industry in SEZ shall be connected through impervious drainage lines to the STP/CETP for the discharge of their sewage or industrial effluent. There shall not be any discharge to creeks / rivers. PP shall be accountable for implementing this condition and necessary clause shall be incorporated in the MoU while allotting the plot to the individual industries.	Complied. For existing units same practice is being followed.  As per agreement all the industries have to discharge their wastewater to CETP. There shall not be any discharge in to creeks / rivers.	
XV.	PP shall not carry out any river course modification.	Complied No river course modification is carried out.	
xvi.	The individual industrial units shall obtain prior EC under EIA Notification, 2006 as applicable.	Point Noted.	



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

iettei	etter No. 10-138/2008-IA.III dated 15th July, 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.	Specific Conditions	30-09-2016	
xvii.	Proponent shall identify 200 ha of land for mangrove plantation as per the condition laid by SEAC.	Complied. 100 Ha. Mangrove plantation is being carried out by SAVE at Tala Tadav village of Khambhat Taluka of Anand district.	
		100 Ha. Mangrove plantation is being carried out by GEC at Vadagam village of Khambhat Taluka of Anand district.	
		Both activities are expected to be completed by next plantation season.	
xviii.	50 meter buffer from the existing mangrove area should be provided for any developmental activity.	Complied.	
xix.	Proponent shall develop the green belt with 3 layers of canopy all along the periphery.	Complied. Development of greenbelt at various locations within the SEZ is an ongoing activity. Green belt of 3 layer canopy will be developed as part of the development of SEZ.	
		APSEZL has developed its own "Dept. of Horticulture" which is taking measures/steps for terrestrial as well as mangrove plantation. So, far APSEZL have developed total 376 ha area as green belt with plantation of 6,76,677 saplings within the APSEZ area. Detailed break-up of green belt development along with photographs of the same are attached as <b>Annexure – 2</b> .	
xx.	All the recommendation of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.	Complied. Compliance report of environmental management plan and mitigation measures proposed during meeting with expert appraisal committee is attached as Annexure - 3.	



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To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

	ictel No. 10-136/2006-IA.III dated 13til 3diy, 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.		30-09-2016	
xxi.	There shall be no disturbance to the sand dunes.	There is no sand dune in the SEZ area.	
	The pipelines shall be laid using advanced method viz. Horizontal Directional Drilling (HDD) so as to avoid disturbance to the sand dunes/creeks/ mangroves.	Point noted and feasibility will be studied as and when required.	
Part -	- B: General Conditions		
	Construction Phase		
i.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. All necessary infrastructure and facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. will be provided during construction phase.  Details submitted to the MoEF & CC along with half yearly compliance report Apr —	
	p. 6) 6 6 6 1	2015 to Sep – 2015.	
ii.	A first aid room will be provided in the project both during construction and operation of the project.	Complied.  APSEZL has already available Occupational Health Center & First Aid facility, which will be utilized during entire construction as well as operation phase. Whereas in case of emergency situation requiring treatment at hospital facility, same will be provided at Adani Hospital located with SEZ area.	
iii.	All the topsoil excavated during construction phase should be stored for use in horticulture/landscape development within the project site.	Complied. Excavated topsoil is used for the horticulture/landscape development within the project site.	



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#### Status of the conditions stipulated in Environment and CRZ Clearance

Sr.		Compliance Status as on
No.	Specific Conditions	30-09-2016
	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed, taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Complied.  APSEZL adopt 5R concept for environmentally sound management of different types of solid & liquid waste.  Liquid Effluent & Sewage - It is being treated at ETP/STP plants, treated water from ETP/STP is being used for horticulture purposes in compliance with GPCB standards.  Municipal Solid Waste  A well-established system for segregation of dry & wet waste is in place, by which all wet waste (Organic waste) is being segregated & utilized for compost manufacturing; compost is further used by in house horticulture team for green belt development. Whereas  Dry Recyclable Waste - is being sorted out in various categories & finally being sent for recycling.  E- Waste & Used Batteries - is being sold to registered recycler.  Solid Hazardous Waste - is being disposed through common facility i.e. CHWIF and /
		through common facility i.e. CHWIF and / or co-processing at cement industries. <u>Used/Waste Oil</u> - It is being sold to authorized recycler/reprocesser. <u>Downgrade Chemicals</u> - It is being sold to authorized solvent recover. <u>Slop Oil</u> - Slop oil from vessels are received and water and oil particles from the same are separated in Oil Water Separator system. Separated oil from the same is being sold to authorized recycler/reprocessor.  Sewage generated at different location is properly collected and sent for treatment in respective treatment plants and after treatment it is being utilized on land for horticulture purpose within APSEZ  18



From : April,16
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#### Status of the conditions stipulated in Environment and CRZ Clearance

Sr.	Specific Conditions	Compliance Status as on
No.		30-09-2016
V.		Various Environmental Initiatives taken by APSEZ is attached as <b>Annexure – 4</b> .
vi.	Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.	Complied. Environment Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.
		Ground water quality monitoring report for the period from April'16 to September'16 is attached as <b>Annexure – 5</b> .
vii.	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.	Complied. Construction spoils including bituminous material is being stored in identified temporary storage area outside CRZ area and is being utilized for filling / level raising purpose.
		Hazardous material is being stored and is being disposed as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules.
viii.	Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Gujarat Pollution Control Board.	Complied. Hazardous material is being stored and is being disposed as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules.
ix.	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.	Complied.  DG sets are used as power back up source only in case of power failure. Certificate showing Sulphur content in diesel is attached as <b>Annexure – 6</b> .
X.	The diesel required for operating DG sets shall be stored in underground tanks if required; clearance from Chief Controller of Explosives shall be taken.	Complied. Diesel is stored in the underground tank located in existing port area and approval of the same from Chief Controller of Explosives is obtained. Copy of Certificate from CCE is attached as <b>Annexure – 7</b> .



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#### Status of the conditions stipulated in Environment and CRZ Clearance

recter	letter No. 10-138/2008-IA.III dated 15th July, 2014			
Sr.	Specific Conditions	Compliance Status as on		
No.	Specific Conditions	30-09-2016		
xi.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during nonpeak hours.	Complied.  Vehicles having a valid PUC only are used for construction activities.		
xii.	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made	Complied. Environment Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.		
	to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/GPCB.	Monitoring report for the period from April'16 to September'16 is attached as <b>Annexure – 5.</b> Ambient air monitoring reports of SEZ industries are also attached along with this annexure.  Measures for mitigating air and noise		
		pollution mentioned in EMP are being implemented regularly.		
xiii.	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27 <sup>th</sup> August, 2003. (The above condition is applicable only if the project site is located within 100 Kms of Thermal Power Stations).	Complied. Part of fly ash generated from Adani Power Limited, Mundra is being utilized by Adani Group to manufacture paver blocks and the same is used in back up area, footpath, colonies area, parking area, approach road etc.		
xiv.	Ready mixed concrete must be used in building construction.	Complied. Only RMC is used for construction activity.		
xv.	Storm water control and its re-use should be regulated as per CGWB and BIS standards for various applications.	Point noted.		
xvi.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other referred best practices.	Complied. Only RMC is used for construction activity.		



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	100. 10 150/2000 1/4.111 00000 15011 001y, 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.	Specific conditions	30-09-2016	
xvii.	Permission to draw ground water shall be obtained from the competent Authority prior to construction/operation of the project.	Complied. Source of Water: Narmada water through GWIL and desalination plant of APSEZ. No ground water will be used.	
xviii.	Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.	Point noted and will be complied.	
xix.	Fixtures for shower, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.	Complied.	
xx.	Use of glass may be reduced by up to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.	Complied.  During construction of building, APSEZL will incorporate the same to reduce the electricity consumption and load on airconditioning as per feasible conditions.	
xxi.	Roof should meet prescriptive requirements as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirements.	Complied.  During construction of building, APSEZL will incorporate the same as per feasibility.	
xxii.	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfil these requirement.	Complied. During construction of building, APSEZL will incorporate the same as per feasible conditions.	
xxiii.	The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightning etc.	Complied. Requisite permissions from competent authorities are obtained before start of the construction activities.	
xxiv.	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	Complied.	



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	letter No. 10-136/2006-IA.III dated 13til 3diy, 2014			
Sr.	Specific Conditions	Compliance Status as on		
No.	0.	30-09-2016		
xxv.	Under the provisions of Environment (Protection) Act 1986, legal action shall be initiated against the project proponent if it is found that construction of the project has been started without obtaining environmental clearance.	Point noted.		
	Operation Phase			
i.	The PP while issuing the allotment letter to individual member units shall specifically mention the allowable maximum quantity of water usage and effluent generated by each member unit.	Complied. Such provisions are made in the allotment letters issued to the member units.		
ii.	The PP shall establish an environmental monitoring cell with all the potential polluting units as members to review the environmental monitoring data and suggest improvements.	Complied.  APSEZL has a well structured Environment Management Cell, staffed with qualified manpower for reviewing the environmental monitoring data and suggest improvements. Environment Management Cell organogram is attached as <b>Annexure – 8</b> .		
iii.	Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.	Complied. Sewage generated from individual industry is treated by individual industry itself.  A common effluent treatment plant of 2.5 MLD capacity is already constructed in SEZ area (having an independent environmental clearance) and which takes care of effluent generated from member units. The treated effluent from CETP confirms to the GPCB norms. Treated water is used for gardening / horticulture purpose within CETP and SEZ premises.		



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	No. 10-136/2008-1A.III dated 13til 3diy, 2016	·
Sr.	Specific Conditions	Compliance Status as on
No.		30-09-2016
iv.	The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.	A well-established system for segregation of dry & wet waste is in place, by which all wet waste (Organic waste) is being segregated & utilized for compost manufacturing; compost is further used by in house horticulture team for green belt development. Whereas <a href="Dry Recyclable Waste">Dry Recyclable Waste</a> - is being sorted out in various categories & finally being sent for recycling.  Various Environmental Initiatives taken by APSEZ is attached as <b>Annexure - 4</b> .
V.	Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operational phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Low sulphur diesel should be used. The location of the DG sets may be decided in consultation with the Gujarat Pollution Control Board.	Complied.  DG sets are used as power back up source only in case of power failure & DG sets are confirming to the Environment Protection Act 1986.
vi.	Noise should be controlled to ensure that it does not exceed the prescribed standards, During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	Complied. Noise Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.  Monitoring report for the period from April'16 to September'16 is attached as Annexure - 5.



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#### Status of the conditions stipulated in Environment and CRZ Clearance

Sr.	Specific Conditions	Compliance Status as on
No.		30-09-2016
vii.	Green belt of adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.	Complied.  Development of greenbelt at various locations within the SEZ is an ongoing activity.
		For that purpose, APSEZL has developed its own "Dept. of Horticulture" and is taking better measures/steps to improving environment. So, far APSEZL have developed total 376 ha area as green belt with plantation of 6,76,677 saplings.
		Green belt of 3 layer canopy will be developed as part of the development of SEZ. Detailed break-up of green belt development along with photographs of the same are attached as <b>Annexure – 2</b> .
viii.	Weep holes in the compound walls shall be	Complied.
	provided to ensure natural drainage of rain water in the catchment area during the monsoon period.	Boundary walls are constructed in such a way by keeping opening for define river path to facilitate free flow of water and it is ensured that water is not stagnant at any given point during rainy season.
ix.	Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented.	Complied. Operational units will be encouraged for rainwater harvesting within their premises. However, for social infrastructure project at Mundra (having separate environmental clearance), rainwater harvesting project is in progress.
X.	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	Complied. Regular ground water monitoring is being done. Monitoring report for the period from April'16 to September'16 is attached as Annexure – 5.



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#### Status of the conditions stipulated in Environment and CRZ Clearance

iettei	letter No. 10-138/2008-IA.III dated 15th July, 2014			
Sr.	Specific Conditions	Compliance Status as on		
No.		30-09-2016		
xi.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.	Complied. The entry and exit gates of SEZ and port are provided with ample parking area near the gate. The entry / exit complex is fully equipped with traffic control equipments and round the clock security.		
xii.	A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & D Factors etc and submitted to the Ministry along with six monthly monitoring report.	Point noted and will be complied.		
xiii.	Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be an integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Solar panels may be used to the extent possible.	Complied.  CFL / LED lighting are being used at various common areas of SEZ.  Used CFL are collected and sent for recycling through authorized e-waste collection agency.  Installation of solar system of 1.5 MW in township is in progress and photographs showing the same are enclosed as Annexure – 9.		
xiv.	Adequate measures should be taken to prevent odour problems from solid waste processing plant and STP.	Complied. All organic waste is converted to compost for utilization by Horticulture dept. Other solid waste is being segregated and sent for recycling. These measures ensure that odor problem is not created in the surrounding area.		
XV.	The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.	Complied.		



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	cer 100. 10 130/2000 ir iiii 00cco 13cii 00iy; 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.	Specific definitions	30-09-2016	
xvi.	The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.	Complied. Compliance report of environmental management plan and mitigation measures proposed during meeting with expert appraisal committee is attached as Annexure – 3.	
xvii.	Adequate drinking water facility be provided.	Point noted and being complied.	
xviii.	Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.	Complied. Environment Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.	
		Monitoring report for the period from April'16 to September'16 is attached as <b>Annexure – 5.</b> Ambient air monitoring reports of SEZ industries are also attached along with this annexure.	
		Cumulative Impact Assessment study of Mundra is in progress which includes incremental pollution loads on the ambient air quality, noise and water quality. Same will be submitted on completion of study.	
xix.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for portion of the apartments should be provided.	Complied. Installation of solar system of <b>1.5 MW</b> in township is in progress and photographs showing the same are enclosed as <b>Annexure - 9</b> .	
XX.	Ozone depleting substance (Regulation & Control) Rules should be followed while designing the air conditioning system of the project.	Complied.  APSEZ is in process for procuring air condition system with Ozone Depleting substance only.	



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	etter No. 10-138/2008-IA.III dated 15th July, 2014		
Sr.	Specific Conditions	Compliance Status as on	
No.	Specific conditions	30-09-2016	
12	Officials from the Regional Office of MOEF, Bhopal who would be monitoring the implementation of environmental safeguards should be given full	Complied. Full support is extended to officers of regulatory authorities.	
	cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to the CCF, Regional Office of MOEF, Bhopal.	Last compliance report for the period of Oct'15 to March'16 was submitted to all concern authorities. Copy of the same is also available on our web site.	
13	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.	Point noted.	
14	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provision of the Environmental (Protection) Act, 1986, to ensure effective implementation of the safeguard measures in a time bound and satisfactory manner.	Point noted.	
15	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponent from the respective competent authorities.	Point noted.	



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#### Status of the conditions stipulated in Environment and CRZ Clearance

	Tetter No. 10-136/2006-1A.III dated 13til 3diy, 2014			
Sr. No.	Specific Conditions	Compliance Status as on 30-09-2016		
16	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.	Point noted.		
17	The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Clearance and copies of clearance letters are available with the Gujarat Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	Complied.  APSEZL has advertised Environmental / CRZ Clearance in two local newspapers in due time and copy of the same was submitted vide letter dated 13.08.2014 to Ministry of Environment, Forests & Climate Change, Bhopal.		
18	Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Point noted.		
19	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Point noted.		



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#### Status of the conditions stipulated in Environment and CRZ Clearance

Sr.		Compliance Status as on
No.	Specific Conditions	30-09-2016
20	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat,	Complied.  Details submitted to the MoEF & CC along
	Zilla Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/	with half yearly compliance report Apr – 2014 to Sep – 2014.
	representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Clearance letter is also put on the website of the Adani ports.
21	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. Last compliance report for the period of Oct'15 to March'16 was submitted to all concern authorities. Copy of the same is also available on our web site.
22	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. Last compliance report for the period of Oct'15 to March'16 was submitted to all concern authorities. Copy of the same is also available on our web site.
23	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Complied. It is being submitted by the individual unit located within SEZ area. EC Compliance report is uploaded at our website www.adaniports.com.



From : April,16

To : September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# ANNEXURE A Compliance Report of CRZ Recommendation



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

#### Note:

GCZMA has recommended the CRZ proposal for Sea Water Intake, Outfall system and Pipeline. Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet. Existing units having requisite environmental permissions for discharging their wastewater if any to the common effluent treatment plant having capacity of 2.5 MLD of MPSEZ Utilities Pvt. Ltd. Treated water is being utilized within the premises of CETP for the gardening / horticulture activities. As soon as the need for discharging the effluent / reject form the desalination plant into sea will arise, constriction work for the intake and outfall will be started.



From : April,16 To : September,16

Status of the conditions stipulated in Environment and CRZ Clearance

"Desa	pliance Status of CRZ Recommendati alination, Sea Water Intake, Outfall Facility a 1-1601-E dated 27 <sup>th</sup> March 2012	
Sr.		Compliance Status as on
No.	Specific Conditions	30-09-2016
Spec	ific Conditions	
1	The provisions of the CRZ Notification of 2011 shall be strictly adhered to by M/s MPSEZ.	Complied. All activities are in line with the EC notification 2006 and CRZ Notification 2011 and their subsequent amendments.
2	The treated effluent meeting with the Gujarat Pollution Control Board (GPCB) norms at the point recommended by NIO shall only be discharged through the said pipeline.	Complied. Currently in SEZ area, 2.5 MLD CETP is in operation and treated water of the same is being used for the gardening / horticulture within the CETP premises.
3	The MPSEZ shall have to ensure that there should not be any mangrove destruction for the proposed project. Also existing mangroves shall have to be protected.	Complied.  APSEZL has already committed to protect the 1254 ha. area in and around mundra area as mangrove conservation area.  Monitoring with respect to protection and conservation of the said area is carried out by GUIDE, Bhuj.
4	The MPSEZ shall have to provide continues monitoring system for effluent quality specifically in respect of Salinity and Temperature since these two are vital parameters looking to the nature of effluent.	
5	All the recommendations and suggestions given by the NIO in its marine environment impact assessment reports shall be implemented strictly by M/s MPSEZ.	Complied.  Compliance report of environmental management plan and mitigation measures proposed during meeting with expert appraisal committee is attached as Annexure – 3.



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

2010	2010-1601-E dated 27 <sup>th</sup> March 2012							
Sr.	Considio Conditions	Compliance Status as on						
No.	Specific Conditions	30-09-2016						
6	The effluent not meeting with the GPCB norms shall not be discharged and shall be stored in the guard ponds and recycled back into the Effluent Treatment Plant for further treatment to achieve the GPCB norms. The MPSEZ shall install necessary facilities for this purpose and strictly ensure the compliance with the GPCB norms, round the clock.	Complied. Effluent treated in CETP meets with GPCB norms and it is used for gardening / horticulture purpose within SEZ premises.						
7	Comprehensive Environment Impact Assessment Report shall be submitted to this department and recommendations / suggestions given in it shall be implemented.	Complied. Cumulative impact assessment report of Mundra region including SEZ area as well as other industry in the surrounding is being prepared. After completion of study the report will be submitted to concern authority. Recommendations/suggestions given in the report will be implemented.						
8	The construction debris and sewage generated during the construction phase shall not be discharged into the creek, sea and estuary or into the CRZ area. The debris shall be removed from the construction site immediately after the construction is over and shall be disposed of as per the guidance of the GPCB.	Point noted and will be complied. No construction activities are carried out in the CRZ area.						
9	The construction camps shall be located outside the CRZ area and the construction lobours shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labours.	Complied. All necessary infrastructure and facilities like fuel for cooking, mobile toilets, safe drinking water, medical health care, creche etc. is being provided. Most workers come from nearby villages however, for others, construction camps are located outside CRZ area.						
10	The ground water shall not be tapped to meet with the water requirements during construction or operation phase in any case.	Complied. Source of Water: Narmada water through GWIL and Desalination Plant. No abstraction of ground water.						



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

2010	2010-1601-E dated 27 <sup>th</sup> March 2012							
Sr.	Consisio Condiniona	Compliance Status as on						
No.	Specific Conditions	30-09-2016						
11	A disaster management plan to meet with any eventualities that may arise during construction and/or operation phase shall be prepared and implemented.	Complied. Disaster Management Plan for natural calamities is attached here as <b>Annexure –</b> 10.						
12	The pipeline shall be monitored regularly by the company and it shall be ensured that there is no leak form the pipeline. In case of any eventualities, the company shall immediately stop disposal through the said channel and take the corrective measures in consultation with the GPCB and District Collector.	Point noted and will be complied. No pipeline is laid till now.						
13	Necessary permission from different departments / agencies under different laws / acts shall be obtained before commencing the construction / pipeline laying activities.	Point noted and will be complied.  Necessary permissions will be obtained before start of the construction activities / laying of pipeline						
14	A separate environment cell with equipped personnel shall be created to implement the environment management plan and separate budget shall be provided for this purpose.	Complied.  APSEZL has a well structured Environment Management Cell, staffed with qualified manpower for implementation of the Environment Management Plan. Allocation of separate budget has also been done. EMC Organogram is attached as <b>Annexure</b> - 8.  Detail break up of budget spent during FY 2016-17 for Environment Protection						
		measure attached as <b>Annexure – 11</b> .						
15	The cost of the external agency that may be appointed by the department for supervision / monitoring of the project activities during construction / operational phases shall be borne by M/s MPSEZ.	Point noted and will be complied.						



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

2010	10-1601-E dated 27" March 2012							
Sr.	Specific Conditions	Compliance Status as on						
No.	Specific Conditions	30-09-2016						
16	Massive greenbelt development program including the mangrove plantation in 200 ha shall be carried out in consultation with the Gujarat Ecology Commission / Forest Department by M/s MPSEZ or the MPSEZ	Complied. 100 Ha. mangrove plantation is being carried out by SAVE at Tala Tadav village of Khambhat Taluka of Anand district.						
	shall develop or participate in the Bio-Shielding projects to be taken up by the Department through MS university.	100 Ha. mangrove plantation is being carried out by GEC at Vadagam village of Khambhat Taluka of Anand district.						
		Both activities are expected to be completed by next plantation season.						
		APSEZL has developed its own "Dept. of Horticulture" and is taking measures/steps to improving environment. So, far APSEZL have developed total 376 ha area as green belt with plantation of 6,76,677 saplings in APSEZ premises and further green belt area will be developed as per development plan of SEZ. Detailed break-up of green belt development along with photographs of the same are attached as <b>Annexure – 2</b> .						
17	A large scale socio-economic upliftment program in consultation with the District Collector / DDO shall be carried out. A separate budget shall be provided for this purpose and details be furnished to this Department from time to time.	Complied.  APSEZL is carrying out various CSR activities through Adani Foundation.  Details of CSR activities carried out by Adani Foundation for Mundra and						
		surrounding area is attached as <b>Annexure - 12.</b>						
18	Environmental Audit report shall be submitted every year. The report shall also cover the change in the coastal and marine environment enroute the proposed pipeline and around disposal point due to commissioning of the proposed activities.	Point noted & will be complied.						



From : April,16
To : September,16

#### Status of the conditions stipulated in Environment and CRZ Clearance

Sr. No.	Specific Conditions	Compliance Status as on 30-09-2016
19	A six monthly progress reports regarding the compliance of the conditions shall be submitted to this department.	Complied. Last compliance report for the period of Oct'15 to March'16 was submitted to all concern authorities. Copy of the same is also available on our web site.
20	Any additional condition that may be imposed by this department / MoEF, GOI from time to time shall have to be complied with by M/s MPSEZ.	Point noted and will be complied.



From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## **ANNEXURE - 1**

Sr.	Onadikina	Osmalias as Chabus
No.	Condition	Compliance Status
i	The proposal of extension of the validity of environmental clearance granted to the North Port vide letter dated 12.01.2009 will be considered separately at later stage.	Point Noted
ii	Bocha island, ecologically sensitive geomorphological features and areas in the island and creeks around the island will be declared as conservation zone action plan for its conservation must be prepared. M/s. APSEZ should provide necessary financial assistance for this purpose.	APSEZL approached NCSCM, Chennai to carry out the said study. Sr. Scientist have done site visit and based on the same they have submitted their proposal. Said proposal was discussed with Gujarat Coastal Zone Management Authority (GCZMA) in their 28 <sup>th</sup> committee meeting on 22.04.2016. Based on the discussions, work is awarded to NCSCM and they have initiated the studies. Copy of the proposal of NCSCM (which include the scope of work as well as time frame for completion of the work) was submitted to MoEF&CC vide our letter dated 10.09.2016
iii	The violations of specific condition of all the ECs and CRZ clearances, if any, will be examined and proceeded with the provisions of EP Act, 1986 independently.	
iv	A comprehensive and integrated study and protection of creeks/ mangrove area including buffer zone, mapping of coordinates, running length, HTL, CRZ boundary, will be put in place. The plan will take note of all the conditions of approvals granted to all the project proponents in this area e.g. the reported case of disappearance of mangroves near navinal creek. The preservation of entire area to maintain the fragile ecological condition will be a part of the plan in relation to the creeks, mangrove conservation and conservation of bocha island up to baradimata and others.	Direction no. iv and v being continuous part of the direction no. ii above, the present status is as per our reply against direction no. ii above.

Sr.	Condition	Compliance Status
No.		Compilation States
V	NCSCM will prepare the plan in consultation with NIOT, PP and GCZMA. In recognition of the fact that the existing legal provisions under the E(P) Act 1986 do not provide for any authority to impose ERF by the government, the plan will be financed by the PP. the implementation will be carried out by GCZMA. The monitoring of the implementation will be carried by NCSCM.	
vi	There will be no development in the area restricted by the High court of Gujarat. APSEZ shall abide by the outcome of the PIL 12 of 2011 and other relevant cases.	Subject PIL has been disposed off by Hon'ble High Court and therefore no impact.
vii	APSEZ will submit specific action plan to protect the livelihood of fishermen along with budget.	APSEZ has prepared a specific action plan to protect livelihood of fishermen. Details of activities planned along with estimated budget are part of the action plan. This action plan is already submitted to MoEF & CC vide our compliance report for the period Oct'15 to Mar'16
viii	APSEZ will voluntarily return the grazing land, if any, in their possession.	Point noted
ix	A regional strategic impact assessment report with a special focus on Mundra region will also be prepared. The cost towards these studies will also be borne by PP.	approved by GCZMA, work to carry out cumulative impact
		collection is also completed.  Copy of the ToR approved by GCZMA as well as a progress



Sr. No.	Condition	Compliance Status
		report on the same were submitted to MoEF&CC vide our letter dated 10.09.2016
		After completion of study the final report will also be submitted to concern authorities. Suggestions /recommendations given in the report will be implemented.
×	In the subject matter of thermal power plant, the proposed regional strategic impact assessment analysis will take in to account salinity aspect along with its potential environmental impact to suggest future corrective actions as well as the guiding tool on extension and additional of the capacities.	•



From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## ANNEXURE - 2

	Total Green Zone Detail Till Up to Sep2016						
LOCATION	Area (In Ha.)	Trees (Nos.)	Palm (Nos.)	Shrubs (SQM)	Lawn (SQM)		
SVC COLONY	59.991	27939.00	6965.00	49380.00	80069.00		
PORT & NON SEZ	71.962	124946.00	18613.00	62986.78	58455.18		
SEZ	86.715	137285.00	14224.00	214389.60	19627.03		
MITAP	2.475	8168.00	33.00	1670.00	4036.00		
WEST PORT	81.342	181827.00	50221.00	24112.00	22854.15		
AGRO- PARK	7.523	17244.00	1332.00	5400.00	2121.44		
SOUTH PORT	14.078	25150.00	3430.00	3882.00	4826.97		
Samundra Township	36.083	29459.00	10505.00	20370.15	35071.67		
Productive Farming (Vadala Foder)	15.690	19336.00	0.00	0.00	0.00		
TOTAL (APSEZL)	375.86	571354.00	105323.00	382190.53	227061.44		
		67667	77.00				

Mangrove Afforestation Detail						
S. NO.	Location	FY	Area (Hectare)	Clearance Reference	Plantation/Gap Filling	Species
A.1	Mundra Port Area (Mundra, Kutch)		24.00	Environment Clearace - Mundra (J-16011/13/95-IA.III dated 25 August 1995)	Plantation	Avicennia marina
	Total Plantation		24.00			
B.1	Mundra Port Area (Mundra, Kutch)		25.00	Environment Clearace - Mundra (J-16011/30/2003-IA.III dated 21 July 2004)	Plantation	Avicennia marina
	Total Plantation		25.00			
C.1		2007-08	40.00		Plantation	
C.2		2009-10	10.00		Gap Filling Work	
C.3	Luni/Hamiramora	2010-11	10.00	CRZ Recommendation - Mundra	Gap Filling Work	Avicennia marina
C.4	(Mundra, Kutch)	2011-12	95.40	(Env-10-2005-222-P dated 12 October, 2006)	Plantation	Rhizophora mucronata Ceriops tagal
C.5		2012-13	25.40		Plantation	
C.6		2013-14-15	70.00	1	Gap Filling Work	
	Total Plantation (C.1+C.4+C.5)		160.80			
D.1	Kukadsar	2012-13	66.50	CRZ Recommendation - Mundra (Env-10-2005-222-P dated 12 October, 2006)	Plantation	Avicennia marina
D.2	(Mundra, Kutch)	2013-14	10.00		Gap Filling Work	Avicennia marina
	Total Plantation (D.1)		66.50			
E.1	Forest Area	2011-12	50.00	Forest Clearance - Mundra	Plantation	Avicennia marina
E.2	(Mundra)	2012-13	248.00	(F.No. 8-2/1999-FC (pt) dated 27 February 2009)	Plantation	Avicennia marina
	Total Plantation (E.1+E.2)		298.00			

S. NO.	Location	FY	Area (Hectare)	Clearance Reference	Plantation/Gap Filling	Species
F.1	Jangi village	2012-13	50.00	CRZ Recommendation - Mundra (Env-10-2005-222-P dated 12 October, 2006)	Plantation	Avicennia marina
F.2	(Bhachau, Kutch)	2013-14	20.00		Gap Filling Work	Avicennia marina
	Total Plantation (F.1)		50.00			
G.1		2007-08	40.10	CRZ Recommendation - Mundra (Env-10-2005-222-P dated 12 October, 2006)	Plantation	
G.2		2008-09	10.00		Gap Filling Work	
G.3		2009-10	10.00		Gap Filling Work	
G.4		2011-12	50.00	Environment Clearance - Dahej (11-37/2007-IA-III dtd 11 November, 2008)	Plantation	Avicennia marina
G.5	Jakhau Village (Abdasa, Kutch)	2013-14	20.00		Gap Filling Work	Rhizophora mucronata
G.6		2012-13	30.00		Gap Filling Work	Ceriops tagal
G.7		2012-13	20.50	CRZ Recommendation - Mundra (Env-10-2005-222-P dated 12 October, 2006)	Plantation	
G.8		2012-13	200.00	Environment Clearance - Mundra (10-47/2008-IA.III dtd. 12th Jan,2009)	Plantation	
G.9		2013-14-15	50.00		Gap Filling Work	
Total Plantation (G.1 + G.4 + G.7 + G.8)			310.60			
H.1	Sat Saida Bet (Kutch)	2014-15	250.00	Commitment with KPT for 250 Ha Tuna (By undertaking dated 3 June, 2013)	Plantation	Avicennia marina
H.2	Sat Saida Bet (Kutch)	2016-17	5.00	Commitment with KPT for 5 Ha. Bio-Diversity-Tuna.	In Progress.	Bio Diversity (Three Var.)
H.3	AKBTPL, Tuna Area	2016-17	30.00		Gap Filling Work-In Progress	Avicennia marina
Total Plantation			255.00			

S. NO.	Location	FY	Area (Hectare)	Clearance Reference	Plantation/Gap Filling	Species
I.1		2006-07	200.00	CRZ Recommendation - Mundra	Plantation	
1.2		2007-08	100.00	(Env-10-2005-222-P dated 12 October, 2006)	Plantation	
1.3	Village Dandi (Navsari)	2007-08	100.00	Environment Clearance - Dahej (11-37/2007-IA-III dtd 11 November, 2008)	Plantation	— Avicennia marina Rhizophora mucronata — Ceriops tagal
1.4		2008-09	200.00	CRZ Recommendation - Mundra	Plantation	Ceriops tagai
1.5		2010-11	200.00	(Env-10-2005-222-P dated 12 October, 2006)	Plantation	
	Total Plantation (1.1 + 1.2 + 1.3 + 1.4 + 1.5)		800.00			
J.1	Village Talaza (Bhavnagar)	2011-12	50.00	Environment Clearance - Dahej (11-37/2007-IA-III dtd 11 November, 2008)	Plantation	Avicennia marina
J.2	Village Narmada (Bhavnagar)	2014-2015	250.00	CRZ Recommendation - Mundra (Env-10-2005-222-P dated 12 October, 2006)	Plantation	Avicennia marina
	Total Plantation (J.1 + J.2)		300.00			
K.1	Village Malpur (Bharuch)	2012-13-14	200.00	CRZ Recommendation - Dahej ENV-10-2006-71-P dtd 29th May, 2007	Plantation	Avicennia marina
K.2	Village Kantiyajal (Bharuch)	2014-15	50.00		Plantation	Avicennia marina
K.3	Village Devla Bharuch	2014-15	50.00	CRZ Recommendation - Hazira ENV-10-2012-30-E dtd 11th May,2012	Plantation	Avicennia marina
K.4	Village Devla Bharuch	2015-16	100.00		Plantation	Avicennia marina
	Total Plantation (K.1 + K.2 + K.3 + K.4)		400.00			
L.1	Village Tada Talav (Khambat, Anand)	2015-16	100.00	Environment and CRZ clearance - Mundra SEZ	Plantation	Avicennia marina
L.2	L.2 Village Tada Talav 2015-16 (Khambat, Anand)		100.00	(10-138/2008/IA.III dated 15 July 2014)	Plantation	Avicennia marina
	Total Plantation (L.1 + L.2)		200.00			
G. Total (Plantation+ Gapfilling)			2889.90			

#### PHOTOGRAPHS SHOWING GREEN BELT AREA WITHIN APSEZ

### ❖ Within Adani Ports & SEZ







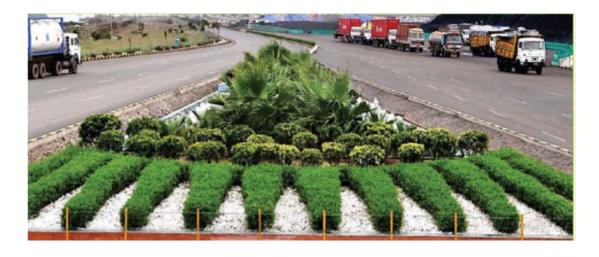












### Within Residential Township







### ❖ Within AMSIPL Premises









### ❖ Within CETP Premises











From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## ANNEXURE - 3

### Compliance Report of EMP & Mitigation Measures

Sr. No.	Condition	Compliance Status	
1	Proper maintenance of vehicles & machineries. Preference for PUC certified	Complied.	
	vehicles only.	Vehicles having a valid PUC only are used for construction phase.	
2	Trucks should be covered during transportation.	Complied.	
3	Vermicomposting of biodegradable and kitchen waste.	Complied. Kitchen waste is being converted to compost. Same practice will be extended during further development of SEZ area.	
4	Applicable Regulatory Compliances.	Complied.	
5	Follow Operational Protocols and Safety procedures.	Complied.	
6	Periodic Monitoring.	Complied.	
7	Noise levels during piling, transportation and erection of structures etc. should be kept at minimum.	Environment Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.  Monitoring report for the period from April'16 to September'16 is attached	
8	Location is free from existence of reefs, mangrove or any such ecologically sensitive species so conventional method for laying seawater intake and effluent release can be adopted.	as Annexure - 4.	
9	Work should be executed as per timeframe to avoid congestion of machineries and equipments.	Point noted.	
10	Noise levels during piling, transportation and erection of structures etc. should be kept at minimum.	Complied.  Environment Monitoring is being carried out on regular basis in Port & SEZ area through NABL and MoEF accredited agency.  Monitoring report for the period from April'16 to September'16 is attached as <b>Annexure – 4</b> .	

Sr. No.	Condition	Compliance Status	
		Necessary measures required, if any, to attenuate noise generation are taken on regular basis.	
11	Maintain cleanliness to avoid spillage and maintain good sanitation facilities.	Point noted and complied.	
12	Effluent release should be as per GPCB/CPCB norms.	The treated water from CETP confirms to the GPCB norms and the same is used for gardening / horticulture purpose within SEZ premises.	
13	Locations should be adequately identified with marker buoys.	Point noted and will be complied.	



From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## ANNEXURE - 4

#### 1. GHG emission reduction initiatives at APSEZ, Mundra

#### 1.1 Tug Speed Reduction Program:

The objective of Tug speed reduction (TSR) program was to reduce fuel consumption and subsequent reduction in greenhouse gas emission like carbon dioxide ( $CO_2$ ) & other emission like  $SO_2$  &  $NO_x$  by slowing Tug speeds during regular visit to SPM (Single Point Mooring) station for anchorage of Crude Oil vessel.

Reduced tug speeds demand less power from the main engine, which in turn reduces nitrogen oxide NOx,  $SO_2 \& CO_2$  emissions. Tugs have two types of engines: main engines and auxiliary engines. Main

engines are used for tug propulsion through the ocean.

Auxiliary engines spin electrical generators that provide power for a tug. Non-propulsion needs such as lights, navigation computers, bow thrusters, air conditioning, satellite communications, etc.

Overall, 31 ton of fuel consumption and  $97.8\ tCO_2$  were reduced per year due to the TSR initiative at APSEZ, Mundra.



#### 1.2 E- RTG Technology for cranes:

The work-horse of the container handling industry is the Rubber Tired Gantry (RTG) crane. For over 50 years, these heavy duty cranes have been a staple at ports worldwide. Typically powered by diesel engines, these cranes require constant maintenance and fuel management to remain operational. In

addition to costs, ports have begun to feel the pressure to become more "Green" by local authorities and governments. Under this initiative, all the diesel operated cranes were converted to electric mode using the e-RTG technology. This conversion has helped achieve the following benefits:

- 95% savings of diesel consumption
- Reduction of operation costs up to 70%
- Reduction of maintenance costs (diesel generators) up to 70%
- Significant reduction of greenhouse emissions & noise pollution
- Automated aisle entry/exit for increased productivity



Figure : E-RTG installed at Container Terminal

#### 2. Waste Management initiatives at APSEZ, Mundra

#### 2.1 Sustainable Waste Management:

APSEZ, Mundra is committed to minimize the disposing of waste, it's impact on the environment and to ensure that waste is managed in an environmental friendly and safe manner. Therefore, in collaboration with "Let's Recycle" APSEZ segregates the waste (generated from operational activities and received from ships calling at the port) and sends for recycling.

Most of the solid waste generated in the company is recyclable. Focusing on Dry Waste Collection/segregation and sending to authorizing recyclers. All waste management facilities are compliant with the safety and environmental standards and ensure effective and efficient recycling.

#### 2.2 Zero Waste Initiatives (ZWI) Concept

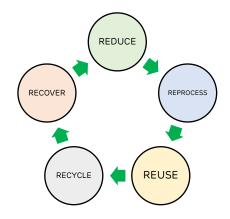
There is a common responsibility to first reduce generation of waste, then focus on reuse and recycle of waste for another use and finally recover to derive the valuable materials out of waste. No waste should be disposed to nature.

Good Environment Management practices require focus on 5R (Reduce – Reprocess – Reuse – Recycle

 Recover) principles rather than mere disposal of wastes back to nature which pollute and degrade environment.

In Nature, there is nothing like "Waste". So as an environmentally responsible organization, APSEZ has put up efforts to become a Zero Waste company by adopting 5R practices of sustainable handling and management for each kind of waste.





APSEZ has taken initiative to make Mundra port a "Zero Waste Port". To achieve this milestone, various sources of waste and their sustainable waste management techniques were identified. A detailed waste inventory was prepared. Having understood the entire concept of "Zero Waste Initiatives", a firm commitment was given by the top management to implement the sustainable waste management techniques.

#### 2.3 Material Recovery Facility for Management of Solid Waste:

APSEZL have established Material Recovery Facility for environmentally sound management of Dry Solid Waste. Presently manual sorting is being done for sorting of different types of solid waste, sorted out different stream of recyclable material is being sent to recycling like Paper, Plastic, Cardboard, PET Bottles, Glass etc. Whereas remaining non-recyclable waste is bailed and sent to cement plant for Coprocessing as RDF (Refused Derived Fuel).



View of Material Recovery Facility





Sorting of Recyclable Material from MSW







Bailed waste ready for Recycling & Resource Recovery

Bailing Facility for Management of Dry Waste

### 2.4 Organic Waste Composting Facility:

APSEZL have established Organic Waste Composting Facility for environmentally sound management of organic waste generated from canteens. This facility enables to convert organic waste in rich organic compost, which is being used for in-house Horticulture purpose

#### Food/Vegetable Waste



Manure to Plant







#### 2.5 Hazardous Waste Management:

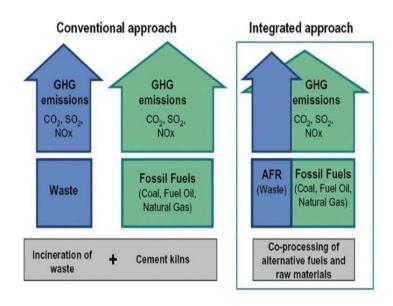


Hazardous Waste Storage Facility

APSEZL have established designated facility for storage of various types of Hazardous Waste. Recyclable hazardous waste like used oil/ waste oil & E-Waste is being stored separately, which is being regularly sent to authorised recyclers for recycling & recovery.

APSEZL have taken various initiatives under zero waste initiative for diverting hazardous waste from incineration/landfill to Co-Processing. APSEZL have done tie up with cement plant for disposal of Pig Waste, Oily contaminated cotton waste & tank bottom sludge through co-processing.

Benefit of adopting Co-processing (Integrated Approach) over Conventional Approach (TSDF/Landfill)



### 3. Water Management initiatives at APSEZ, Mundra

Waste water generated from various operational area from Port & SEZ is being treated at respective Sewage Water Treatment Plant & Effluent Treatment Plant. Treated water from all STP/ETP is being fully utilised for Horticulture purpose.

Detail of various STP/ETP's available at APSEZL, Mundra.

Sr. No	Location	Capacity	Technology
1	CETP	2.5 MLD	Aerobic Digestion
2	Shantivan Colony STP	350 KLD	Aerobic Digestion
3	Shantivan Colony STP	250 KLD	Aerobic Digestion
4	Adani House STP	150 KLD	MBBR
5	Old Admin STP	30.0 KLD	Aerobic Digestion
6	Samudra Township STP	2.0 MLD	MBR
7	Adani Hospital STP	30.0 KLD	Aerobic Digestion
8	Liquid Terminal ETP	265 KLD	Aerobic Digestion
9	West Port STP	55.0 KLD	FAB

### Water Treatment Facilities at APSEZL, Mundra













### Water Maker Machine (Water from Atmospheric Air)

APSEZL, Mundra is located in the arid region of Gujarat state. Recognising the importance of water & our long time plan for circular economy, as a part of Sustainable Environmental initiatives APSEZL, Mundra have identified innovative technology of Atmospheric Water Generator, which generates pure & hygienic drinking water from atmospheric air.

Recently APSEZL, Mundra have commissioned 02 nos. of Water Maker Machine of capacity 120 Ltr/Day & 250 Ltr/Day, which is scattering drinking water requirement at port & residential township.

#### Working Principle:

The Water Maker Atmospheric Water Generator is a humidity and temperature driven machine. This machine totally depends on the level of humidity in the air and the temperature to produce water. Ideally, the humidity level should be at least 40% or above and temperature ranging from 25°C to 32°C to achieve the machine's optimum performance. In places with lower humidity level, the machine will still produce water but not as quickly, nor as much as in places with high level of humidity. Because Water Maker works by converting the humidity in the air into water, this unit also acts as an effective dehumidifier. To remove dust particles and other unwanted impurities WATERMAKER uses the various type of in built water filters. To ensure high quality drinking water, WM-250 utilizes multiple filtration technologies. The water you drink from the WATERMAKER is free from contamination, viruses, bacteria and harmful chemicals.







Water Maker Machine at Township

### 4. Fugitive Dust Control initiatives at APSEZ, Mundra



Mechanised Coal Handling System with closed conveying



Wagon Loading & Truck Loading silo



Wind Screen of 16.0 mtr. Height



Mobile Canon mist & water sprinkling vehicle



Adequate distance between two heaps with fixed fire fighting & water sprinkling



**Dry Fog Dust Suppression System** 



Greenbelt around coal handling area



Road side greenbelt



From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

## ANNEXURE - 5



# "HALF YEARLY ENVIRONMENTAL MONITORING REPORT"

**FOR** 



# ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED TAL: MUNDRA, KUTCH, MUNDRA – 370 421

# MONITORING PERIOD: OCTOBER 2015 TO MARCH 2016

**PREPARED BY:** 



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ISO 9001:2008

ISO 14001:2004

**OHSAS 18001:2007** 

H. T. Shah Lab Manager





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

# **RESULT OF AMBIENT AIR QUALITY MONITORING**

				PUB/ADANI	HOUSE			
Sr.N o.	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	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH <sub>4</sub> mg/m <sup>3</sup>	Benzene as C <sub>6</sub> H <sub>6</sub> μg/m³
1	01/04/2016	71.07	36.50	10.97	20.70	0.62	BDL*	BDL*
2	05/04/2016	61.78	29.79	8.63	24.54	0.60	BDL*	BDL*
3	08/04/2016	81.48	38.60	12.45	28.57	1.11	BDL*	BDL*
4	12/04/2016	66.61	31.88	6.97	17.48	0.65	BDL*	BDL*
5	15/04/2016	94.11	53.86	14.13	23.99	0.98	BDL*	BDL*
6	19/04/2016	89.60	42.37	11.20	19.41	0.86	BDL*	BDL*
7	22/04/2016	76.40	37.76	17.38	31.06	0.47	BDL*	BDL*
8	26/04/2016	62.71	30.62	7.87	22.26	1.10	BDL*	BDL*
9	29/04/2016	70.82	27.69	13.21	37.68	0.96	BDL*	BDL*
10	03/05/2016	66.42	26.43	14.07	24.26	0.45	BDL*	BDL*
11	06/05/2016	92.51	51.60	5.54	23.70	0.62	BDL*	BDL*
12	10/05/2016	79.81	43.63	10.88	18.81	0.82	BDL*	BDL*
13	13/05/2016	65.62	36.50	15.98	29.42	0.55	BDL*	BDL*
14	17/05/2016	89.41	41.53	12.43	34.58	0.86	BDL*	BDL*
15	20/05/2016	54.71	25.59	6.31	26.38	0.94	BDL*	BDL*
16	24/05/2016	61.59	29.37	9.92	37.16	0.52	BDL*	BDL*
17	27/05/2016	82.41	46.57	11.98	21.22	0.88	BDL*	BDL*
18	31/05/2016	72.50	31.46	13.54	28.90	1.08	BDL*	BDL*
19	03/06/2016	50.31	22.65	5.90	22.27	0.44	BDL*	BDL*
20	07/06/2016	60.60	32.72	8.60	29.16	0.50	BDL*	BDL*
21	10/06/2016	71.20	39.43	10.93	24.40	0.27	BDL*	BDL*
22	14/06/2016	57.63	20.56	12.21	21.23	0.40	BDL*	BDL*
23	17/06/2016	65.62	26.43	15.85	28.49	0.12	BDL*	BDL*
24	21/06/2016	76.28	40.69	13.30	35.10	0.67	BDL*	BDL*
25	24/06/2016	84.52	45.73	9.94	26.41	0.21	BDL*	BDL*
26	28/06/2016	61.22	23.49	11.81	20.14	0.15	BDL*	BDL*
27	01/07/2016	75.72	39.43	13.86	23.52	0.41	BDL*	BDL*
28	05/07/2016	65.68	33.56	15.69	35.28	0.66	BDL*	BDL*
29	08/07/2016	70.58	37.76	9.87	26.33	0.18	BDL*	BDL*
30	12/07/2016	91.52	42.37	19.61	31.21	0.61	BDL*	BDL*

Continue ...

H. T. Shah **Lab Manager** 





## Recognised by MoEF. New Delhi Under Sec. 12 of Environmental (Protection) Act-1986 **RESULT OF AMBIENT AIR QUALITY MONITORING**

				PUB/ADANI	HOUSE			
Sr.N o.	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	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH <sub>4</sub> mg/m <sup>3</sup>	Benzene as C <sub>6</sub> H <sub>6</sub> µg/m³
31	15/07/2016	86.29	46.76	16.51	30.47	0.52	BDL*	BDL*
32	19/07/2016	54.53	21.40	11.45	22.59	0.24	BDL*	BDL*
33	22/07/2016	69.21	32.72	12.12	27.36	0.55	BDL*	BDL*
34	26/07/2016	50.31	25.59	17.32	33.27	0.49	BDL*	BDL*
35	02/08/2016	78.57	37.76	24.70	36.46	0.52	BDL*	BDL*
36	05/08/2016	57.19	30.62	9.85	18.75	0.21	BDL*	BDL*
37	09/08/2016	82.60	45.73	19.16	30.42	0.30	BDL*	BDL*
38	12/08/2016	68.41	28.53	17.68	28.34	0.46	BDL*	BDL*
39	16/08/2016	55.58	31.04	22.83	31.26	0.64	BDL*	BDL*
40	19/08/2016	79.50	42.37	20.13	35.94	0.76	BDL*	BDL*
41	23/08/2016	65.19	23.49	14.32	29.17	0.48	BDL*	BDL*
42	26/08/2016	54.53	24.75	12.84	21.49	0.22	BDL*	BDL*
43	30/08/2016	71.51	46.57	21.41	33.34	0.41	BDL*	BDL*
44	02/09/2016	58.62	27.69	14.42	27.40	0.76	BDL*	BDL*
45	06/09/2016	85.57	48.66	11.86	33.70	0.58	BDL*	BDL*
46	09/09/2016	78.57	34.40	21.36	25.85	0.41	BDL*	BDL*
47	13/09/2016	59.92	25.59	13.53	20.16	0.63	BDL*	BDL*
48	16/09/2016	75.22	30.62	15.86	29.30	0.69	BDL*	BDL*
49	20/09/2016	63.39	36.50	10.50	22.40	0.40	BDL*	BDL*
50	23/09/2016	82.60	46.57	20.20	38.26	0.61	BDL*	BDL*
51	27/09/2016	72.62	43.63	16.69	26.42	0.53	BDL*	BDL*
52	30/09/2016	86.62	35.66	12.77	28.49	0.27	BDL*	BDL*
	TEST METHOD	IS:5182(Part 23):Gravimet ric 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)	NDIR Digital Gas Analyzer	SOP: HC: GC/GCMS/G as analyzer	IS 5182 (Part XI):2006/CP CB Method

\*Below detection limit

H. T. Shah **Lab Manager** 





Clouder Froduction, Waste Millimization Fuel Million

# **RESULT OF AMBIENT AIR QUALITY MONITORING**

				AIR STR	IP			
Sr.N o.	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	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH <sub>4</sub> mg/m <sup>3</sup>	Benzene as C <sub>6</sub> H <sub>6</sub> µg/m³
1	02/04/2016	76.20	36.66	9.63	23.73	0.17	BDL*	BDL*
2	06/04/2016	51.58	27.49	11.16	34.77	0.32	BDL*	BDL*
3	09/04/2016	62.17	21.66	7.75	29.66	0.48	BDL*	BDL*
4	13/04/2016	77.49	40.40	5.46	21.68	0.40	BDL*	BDL*
5	16/04/2016	60.42	20.54	12.72	18.46	0.57	BDL*	BDL*
6	20/04/2016	53.60	22.49	6.94	24.54	0.53	BDL*	BDL*
7	23/04/2016	65.42	26.66	10.31	28.63	0.33	BDL*	BDL*
8	27/04/2016	80.18	37.49	16.47	20.66	0.30	BDL*	BDL*
9	30/04/2016	74.61	42.49	8.58	17.50	0.22	BDL*	BDL*
10	04/05/2016	62.17	29.57	6.23	20.60	0.34	BDL*	BDL*
11	07/05/2016	55.62	21.66	11.25	25.61	0.30	BDL*	BDL*
12	11/05/2016	69.52	37.49	7.87	19.26	0.48	BDL*	BDL*
13	14/05/2016	78.40	42.49	12.36	30.36	0.21	BDL*	BDL*
14	18/05/2016	60.21	34.57	9.52	27.19	0.23	BDL*	BDL*
15	21/05/2016	58.37	27.49	13.85	33.65	0.32	BDL*	BDL*
16	25/05/2016	80.43	45.40	10.49	37.39	0.37	BDL*	BDL*
17	28/05/2016	52.49	23.74	8.62	31.20	0.19	BDL*	BDL*
18	01/06/2016	86.67	45.40	14.83	29.11	0.33	BDL*	BDL*
19	04/06/2016	68.60	38.32	9.47	24.97	0.37	BDL*	BDL*
20	08/06/2016	80.61	34.57	13.18	27.51	0.44	BDL*	BDL*
21	11/06/2016	63.70	37.49	7.80	18.62	0.60	BDL*	BDL*
22	15/06/2016	67.62	35.41	19.44	21.49	0.32	BDL*	BDL*
23	18/06/2016	59.48	33.32	12.88	25.69	0.52	BDL*	BDL*
24	22/06/2016	76.63	41.65	6.84	32.29	0.62	BDL*	BDL*
25	25/06/2016	58.31	27.49	9.24	29.79	0.29	BDL*	BDL*
26	29/06/2016	71.18	29.57	5.20	23.53	0.41	BDL*	BDL*
27	02/07/2016	71.48	41.65	10.37	24.48	0.41	BDL*	BDL*
28	06/07/2016	66.28	38.32	16.31	18.56	0.27	BDL*	BDL*
29	09/07/2016	79.20	32.49	8.58	19.38	0.30	BDL*	BDL*
30	13/07/2016	63.40	22.49	5.44	15.87	0.22	BDL*	BDL*

Continue ...

H. T. Shah Lab Manager





## **RESULT OF AMBIENT AIR QUALITY MONITORING**

				AIR STR	IP			
Sr.N o.	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	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH <sub>4</sub> mg/m <sup>3</sup>	Benzene as C <sub>6</sub> H <sub>6</sub> µg/m <sup>3</sup>
31	16/07/2016	52.48	30.61	10.20	22.73	0.36	BDL*	BDL*
32	20/07/2016	68.73	28.74	9.24	27.74	0.40	BDL*	BDL*
33	23/07/2016	70.62	25.41	13.81	23.80	0.31	BDL*	BDL*
34	27/07/2016	64.19	29.57	7.67	20.60	0.21	BDL*	BDL*
35	03/08/2016	75.59	26.66	12.93	23.47	0.64	BDL*	BDL*
36	10/08/2016	48.57	18.74	10.41	27.38	0.39	BDL*	BDL*
37	13/08/2016	63.58	39.57	6.20	15.09	0.14	BDL*	BDL*
38	17/08/2016	58.37	19.58	13.36	21.41	0.27	BDL*	BDL*
39	20/08/2016	76.38	32.49	8.62	25.32	0.37	BDL*	BDL*
40	24/08/2016	55.37	22.49	11.75	19.44	0.25	BDL*	BDL*
41	27/08/2016	61.19	27.49	5.50	16.06	0.18	BDL*	BDL*
42	31/08/2016	72.40	30.41	9.54	20.58	0.32	BDL*	BDL*
43	03/09/2016	82.63	44.57	9.48	27.37	0.21	BDL*	BDL*
44	07/09/2016	70.32	26.66	6.25	16.12	0.18	BDL*	BDL*
45	10/09/2016	84.59	45.40	11.24	25.74	0.73	BDL*	BDL*
46	14/09/2016	57.70	24.58	8.65	22.47	0.44	BDL*	BDL*
47	17/09/2016	77.42	38.74	10.22	29.21	0.48	BDL*	BDL*
48	21/09/2016	65.30	28.32	5.45	17.70	0.22	BDL*	BDL*
49	24/09/2016	58.62	33.32	12.62	21.45	0.53	BDL*	BDL*
50	28/09/2016	67.38	30.41	7.83	24.51	0.40	BDL*	BDL*
	TEST METHOD	IS:5182(Part 23):Gravimet ric 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)	NDIR Digital Gas Analyzer	SOP: HC: GC/GCMS/G as analyzer	IS 5182 (Part XI):2006/CP CB Method

\*Below detection limit

H. T. Shah Lab Manager





## **RESULT OF AMBIENT AIR QUALITY MONITORING**

			NEAR SHANTIVAN COLONY	S STP	
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	04/04/2016	56.72	21.71	18.87	29.62
2	07/04/2016	79.34	35.49	10.33	22.56
3	11/04/2016	85.58	53.44	15.34	27.27
4	18/04/2016	72.37	26.72	9.33	36.23
5	14/04/2016	90.48	46.34	12.33	26.43
6	21/04/2016	84.23	48.43	11.22	19.28
7	25/04/2016	70.60	39.66	19.79	24.81
8	28/04/2016	81.54	34.65	8.49	18.46
9	00/01/1900	0.00	0.00	0.00	0.00
10	02/05/2016	75.67	46.76	17.35	27.49
11	05/05/2016	62.23	33.40	22.72	35.58
12	09/05/2016	70.29	30.48	12.27	24.33
13	12/05/2016	59.29	32.57	20.30	34.53
14	16/05/2016	84.60	45.51	9.67	20.67
15	19/05/2016	76.53	34.65	13.88	32.49
16	23/05/2016	86.49	51.35	10.29	17.38
17	26/05/2016	60.82	28.39	7.83	21.26
18	30/05/2016	77.63	35.49	11.43	29.31
19	02/06/2016	83.37	45.51	11.89	25.65
20	06/06/2016	75.43	35.49	18.65	23.48
21	09/06/2016	65.77	28.39	6.20	18.24
22	13/06/2016	84.23	47.60	15.75	21.43
23	16/06/2016	76.59	37.58	20.19	31.80
24	20/06/2016	67.18	29.64	13.17	26.26
25	23/06/2016	82.40	39.66	10.27	19.70
26	27/06/2016	90.77	48.43	7.77	20.52
27	30/06/2016	77.63	31.31	9.53	15.80
28	04/07/2016	57.21	28.39	11.19	23.41
29	07/07/2016	66.32	30.48	17.87	20.23
30	11/07/2016	82.58	36.74	19.25	29.45

Continue ...

H. T. Shah Lab Manager





# **RESULT OF AMBIENT AIR QUALITY MONITORING**

			NEAR SHANTIVAN COLONY	S STP	
Sr.N o.	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
31	18/07/2016	58.19	23.38	6.20	19.23
32	14/07/2016	78.53	45.51	8.60	21.59
33	21/07/2016	61.49	29.64	15.80	22.50
34	25/07/2016	79.22	40.50	10.36	27.27
35	01/08/2016	68.40	37.58	17.39	34.46
36	04/08/2016	73.47	40.50	10.96	29.10
37	08/08/2016	62.78	24.63	12.18	38.29
38	11/08/2016	52.69	21.71	21.41	21.67
39	15/08/2016	64.55	31.73	16.55	33.43
40	18/08/2016	51.59	26.72	14.82	30.34
41	22/08/2016	70.42	32.57	11.34	36.69
42	25/08/2016	61.37	23.38	5.57	25.68
43	29/08/2016	59.47	28.81	20.69	28.68
44	01/09/2016	58.44	31.73	16.58	32.77
45	05/09/2016	66.14	26.72	20.76	31.63
46	08/09/2016	72.62	34.65	23.80	24.12
47	12/09/2016	63.57	37.58	5.27	27.24
48	15/09/2016	83.37	44.67	9.73	41.37
49	19/09/2016	76.10	32.57	18.85	25.60
50	22/09/2016	87.29	48.43	12.26	37.78
51	26/09/2016	71.82	30.48	17.45	35.50
	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)

\*Below detection limit

H. T. Shah **Lab Manager** 





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

#### **RESULT OF AMBIENT AIR QUALITY MONITORING**

			WTP Nr. CETP			
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	Hydrogen Sulphide as H2S µg/m3
1	02/04/2016	96.50	44.67	18.33	34.21	BDL*
2	06/04/2016	86.70	47.60	15.76	30.79	BDL*
3	09/04/2016	68.92	29.64	13.31	42.42	BDL*
4	13/04/2016	80.61	45.51	19.94	39.68	BDL*
5	16/04/2016	75.63	36.54	20.76	35.58	BDL*
6	20/04/2016	81.28	46.34	12.42	33.66	BDL*
7	23/04/2016	95.59	54.69	14.18	41.50	BDL*
8	27/04/2016	85.60	42.59	21.75	36.53	BDL*
9	30/04/2016	92.60	55.53	24.81	31.40	BDL*
10	04/05/2016	69.28	33.40	16.83	29.26	BDL*
11	07/05/2016	95.22	54.69	19.93	36.63	BDL*
12	11/05/2016	87.31	46.34	14.22	39.29	BDL*
13	14/05/2016	71.60	35.49	20.30	42.29	BDL*
14	18/05/2016	91.51	50.52	12.51	30.47	BDL*
15	21/05/2016	76.71	38.41	17.31	37.29	BDL*
16	25/05/2016	62.53	28.39	15.74	31.38	BDL*
17	28/05/2016	82.31	45.51	21.59	40.11	BDL*
18	01/06/2016	92.60	51.77	22.41	38.56	BDL*
19	04/06/2016	86.51	45.51	14.60	28.29	BDL*
20	08/06/2016	94.49	64.71	24.81	40.46	BDL*
21	11/06/2016	87.79	40.50	19.75	25.33	BDL*
22	15/06/2016	93.52	46.34	21.71	32.45	BDL*
23	18/06/2016	71.42	37.58	17.17	29.57	BDL*
24	22/06/2016	85.72	47.60	20.81	36.74	BDL*
25	25/06/2016	91.81	52.61	23.34	30.35	BDL*
26	29/06/2016	78.17	44.67	13.97	27.38	BDL*
27	02/07/2016	76.53	46.34	18.48	38.44	BDL*
28	06/07/2016	91.20	50.52	24.81	35.48	BDL*
29	09/07/2016	87.18	38.41	15.45	31.16	BDL*
30	13/07/2016	79.57	25.47	11.55	21.09	BDL*

Continue ...

H. T. Shah **Lab Manager** 





# **RESULT OF AMBIENT AIR QUALITY MONITORING**

	WTP Nr. CETP									
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	Hydrogen Sulphide as H2S µg/m³				
31	16/07/2016	88.51	48.72	18.57	32.98	BDL*				
32	20/07/2016	92.72	54.28	15.56	39.35	BDL*				
33	23/07/2016	77.20	32.57	22.47	34.12	BDL*				
34	27/07/2016	86.58	40.50	20.93	28.86	BDL*				
35	03/08/2016	92.42	48.43	24.37	31.44	BDL*				
36	10/08/2016	86.27	42.59	20.22	29.61	BDL*				
37	13/08/2016	69.41	33.40	14.88	24.17	BDL*				
38	17/08/2016	78.42	37.58	17.18	19.28	BDL*				
39	20/08/2016	83.47	44.67	21.69	38.56	BDL*				
40	24/08/2016	90.59	39.66	19.15	26.16	BDL*				
41	27/08/2016	79.51	35.49	15.67	30.36	BDL*				
42	31/08/2016	93.39	40.92	18.74	35.32	BDL*				
43	03/09/2016	88.58	50.52	21.30	42.59	BDL*				
44	07/09/2016	76.53	32.57	17.35	27.67	BDL*				
45	10/09/2016	95.40	56.36	25.32	43.50	BDL*				
46	14/09/2016	86.39	36.74	18.34	30.34	BDL*				
47	17/09/2016	96.68	54.69	20.57	38.54	BDL*				
48	21/09/2016	72.57	31.73	16.51	33.62	BDL*				
49	24/09/2016	90.59	51.35	22.87	28.70	BDL*				
50	28/09/2016	94.19	40.50	19.59	31.66	BDL*				
	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)	IS:5182(Part VII)				

H. T. Shah Lab Manager





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# **RESULTS OF AMBIENT AIR QUALITY MONITORING**

SAMUDRA TOWNSHIP									
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	02/04/2016	83.40	39.75	7.35	20.70				
2	06/04/2016	60.39	32.63	13.75	28.56				
3	09/04/2016	57.91	25.52	5.55	37.91				
4	13/04/2016	72.61	35.56	9.95	29.27				
5	16/04/2016	54.31	19.37	19.97	28.56				
6	20/04/2016	74.59	40.58	8.33	30.70				
7	23/04/2016	58.91	31.38	12.75	21.18				
8	27/04/2016	76.83	28.45	18.51	32.37				
9	30/04/2016	69.32	38.49	15.68	25.49				
10	04/05/2016	50.23	21.34	13.86	32.46				
11	07/05/2016	68.58	32.63	16.31	20.29				
12	11/05/2016	77.57	40.58	11.74	16.37				
13	14/05/2016	65.29	30.54	8.16	24.68				
14	18/05/2016	54.32	23.43	10.88	36.30				
15	21/05/2016	70.32	33.47	14.23	28.40				
16	25/05/2016	86.31	49.37	5.84	22.42				
17	28/05/2016	63.62	35.56	15.56	26.58				
18	01/06/2016	73.42	38.49	9.68	22.93				
19	04/06/2016	61.82	33.47	12.18	36.43				
20	08/06/2016	71.62	29.71	18.55	32.62				
21	11/06/2016	81.48	21.76	15.58	29.57				
22	15/06/2016	60.58	42.68	10.90	17.14				
23	18/06/2016	87.49	46.44	19.61	34.50				
24	22/06/2016	90.59	54.39	13.75	25.24				
25	25/06/2016	70.50	31.38	17.86	21.19				
26	29/06/2016	56.49	27.61	8.90	19.50				
27	02/07/2016	84.70	53.55	12.86	32.68				
28	06/07/2016	51.22	29.71	21.84	29.27				
29	09/07/2016	67.77	23.43	10.45	34.39				
30	13/07/2016	56.18	19.66	9.80	25.87				
31	16/07/2016	64.50	27.55	15.62	30.38				
					Continue				

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	SAMUDRA TOWNSHIP									
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					
32	20/07/2016	79.31	46.44	17.10	35.68					
33	23/07/2016	66.41	28.45	19.71	25.63					
34	27/07/2016	80.30	34.73	16.18	22.55					
35	03/08/2016	82.41	38.49	20.64	35.56					
36	10/08/2016	70.63	25.52	17.23	24.36					
37	13/08/2016	50.29	29.71	12.22	21.55					
38	17/08/2016	72.67	23.43	9.91	26.30					
39	20/08/2016	89.79	37.65	18.80	32.12					
40	24/08/2016	76.21	31.38	13.54	23.47					
41	27/08/2016	68.58	24.68	8.20	27.78					
42	31/08/2016	78.31	48.95	11.48	30.18					
43	03/09/2016	68.21	35.56	15.54	35.65					
44	07/09/2016	52.71	22.59	13.21	23.32					
45	10/09/2016	89.29	48.53	22.89	38.50					
46	14/09/2016	72.30	31.38	12.68	26.31					
47	17/09/2016	83.71	46.44	16.35	32.80					
48	21/09/2016	56.43	23.43	8.15	25.24					
49	24/09/2016	81.73	49.37	18.23	24.24					
50	28/09/2016	76.52	34.31	24.77	27.60					

Note: Monthly average is calculated based on 24 hourly & twice a week monitoring results.

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Lab Manager





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		SAMUDRA TOW	NSHIP CUSTOME	R 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	02/04/2016	70.92	33.35	16.47	30.88
2	06/04/2016	67.20	38.36	6.26	18.73
3	09/04/2016	87.02	45.44	11.31	32.12
4	13/04/2016	56.22	28.77	12.14	24.50
5	16/04/2016	66.55	29.54	14.88	31.50
6	20/04/2016	59.58	31.69	10.38	38.50
7	23/04/2016	82.32	48.36	8.75	25.53
8	27/04/2016	68.42	32.52	15.76	28.59
9	30/04/2016	51.77	20.43	13.96	22.65
10	04/05/2016	56.71	25.43	11.44	23.49
11	07/05/2016	85.55	42.53	13.24	31.82
12	11/05/2016	62.38	31.69	9.71	25.25
13	14/05/2016	50.49	21.26	15.73	35.31
14	18/05/2016	67.63	38.36	5.21	39.21
15	21/05/2016	84.58	45.44	10.29	21.44
16	25/05/2016	76.90	40.44	8.86	26.23
17	28/05/2016	69.39	39.61	12.59	32.62
18	01/06/2016	56.22	31.69	17.28	33.78
19	04/06/2016	77.51	41.27	5.43	39.34
20	08/06/2016	89.52	39.61	15.66	35.22
21	11/06/2016	96.41	34.60	13.22	21.42
22	15/06/2016	82.51	51.70	16.55	26.37
23	18/06/2016	78.48	40.44	10.33	37.28
24	22/06/2016	70.49	30.43	9.43	22.45
25	25/06/2016	79.76	36.27	14.84	25.75
26	29/06/2016	64.52	32.52	11.67	15.56
27	02/07/2016	63.17	37.52	16.28	29.43
28	06/07/2016	59.21	33.35	19.31	24.64
29	09/07/2016	61.22	27.52	13.26	21.56
30	13/07/2016	50.31	15.43	7.75	18.25
31	16/07/2016	76.51	33.45	12.34	26.47
32	20/07/2016	84.58	38.36	11.16	31.71
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	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					
33	23/07/2016	56.28	21.68	15.65	30.34					
34	27/07/2016	72.57	25.85	9.57	19.51					
35	03/08/2016	62.50	32.52	16.45	27.62					
36	10/08/2016	78.72	35.44	13.31	21.13					
37	13/08/2016	58.42	23.76	10.48	18.65					
38	17/08/2016	67.50	31.69	15.72	16.37					
39	20/08/2016	55.67	21.68	11.31	28.32					
40	24/08/2016	70.80	26.68	8.67	16.11					
41	27/08/2016	52.38	30.43	10.51	23.20					
42	31/08/2016	80.37	34.60	14.02	26.52					
43	03/09/2016	60.37	25.43	13.97	32.44					
44	07/09/2016	83.42	37.52	11.47	20.36					
45	10/09/2016	75.68	40.44	18.80	30.43					
46	14/09/2016	65.68	28.77	16.61	37.47					
47	17/09/2016	89.40	50.45	14.93	26.32					
48	21/09/2016	50.31	20.43	12.31	22.62					
49	24/09/2016	76.41	46.69	15.82	31.46					
50	28/09/2016	85.37	39.61	17.35	23.53					

H. T. Shah

**Lab Manager** 





# **Results of Bore Hole Water**

	TEST PARAMETERS	II!t	TECT METHOD	Near CETP Main Gate						
SR. NO		Unit	TEST METHOD	16/10/2015	16/11/2015	15/12/2015	16/01/2016	16/02/2016	17/03/2016	
	Sampling '	Sampling Time		13:00	15:25	13:10	13:10	11:50	16:20	
		Т	ime/Low Tide level	L-09:29 & 1.54 meter	L-10:34 & 1.63 meter	L-10:21 & 1.44 meter	H-06:00 & 5.8 meter	L-07:50 & 1.29 meter	L-15:19 & 1.62 meter	
	Tide details	Ti	me/High Tide level	H-15:15 & 5.44 meter	H-16:17 & 5.20 meter	H-16:06 & 5.25 meter	H-18:42 & 5.1 meter	H-13:44 & 5.97 meter	H-22:03 & 5.26 meter	
<b>1</b> Tempe	erature	оС	IS3025(P9)84Re.02	30	28	28	29	30	29	
<b>2</b> pH			IS3025(P11)83Re.02	7.86	7.94	7.92	7.94	7.89	8.22	
3 Total I	Dissolved Solids	mg/L	IS3025(P16)84Re.02	2870	2428	2907	2730	2898	2870	
4 Salinit	у	ppt	APHA 2520B	1.94	2.03	1.89	2.16	2.13	2.48	
<b>5</b> Chlorid	de as Cl	mg/L	IS3025(P32)88Re.99	1054	1124	1019	1199	1184	1374	
<b>6</b> Depth	of Water from Ground Level	meter		1.9	1.8	1.85	2.03	1.87	3.05	

H. T. Shah Lab Manager





# **Results of Bore Hole Water**

SR.					C	OPP. DRUB RA	ILWAY STATIO	ON	
NO.	TEST PARAMETERS	TEST PARAMETERS Unit TEST METHOD		16/10/2015	16/11/2015	15/12/2015	16/01/2016	16/02/2016	17/03/2016
	Sampling T	ïme		11:40	2:45	2:45	12:15	10:55	3:55
	Tide details	Ti	me/Low Tide level	L-09:29 & 1.54 meter	L-10:34 & 1.63 meter	L-10:21 & 1.44 meter	H-06:00 & 5.8 meter	L-07:50 & 1.29 meter	L-15:19 & 1.62 meter
	i ide details		me/High Tide level	H-15:15 & 5.44 meter	H-16:17 & 5.20 meter	H-16:06 & 5.25 meter	H-18:42 & 5.1 meter	H-13:44 & 5.97 meter	H-22:03 & 5.26 meter
1	Temperature	оС	IS3025(P9)84Re.02	29	29	29	30	29	30
2	рН		IS3025(P11)83Re.02	7.78	7.48	7.41	7.77	7.47	7.88
3	Total Dissolved Solids	mg/L	IS3025(P16)84Re.02	16416	19551	30700	25462	67515	28600
4	Salinity	ppt	APHA 2520B	14.98	18.78	24.83	22.21	55.51	25.46
5	Chloride as Cl	mg/L	IS3025(P32)88Re.99	8297	10396	13745	12296	30740	14095
6	Depth of Water from Ground Level	meter		2.98	2.04	2.5	1.8	2.07	2.6

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H. T. Shah Lab Manager





# **Results of Bore Hole Water**

SR.				SEZ MAIN GATE NEAR FLYOVER BRIDGE						
NO.	TEST PARAMETERS	Unit TEST METHOD -	16/10/2015	16/11/2015	15/12/2015	16/01/2016	16/02/2016	17/03/2016		
	Sampling Ti	me		12:00	3:15	11:30	12:45	11:30	4:05	
	Tide details	Ti	me/Low Tide level	L-09:29 & 1.54 meter	L-10:34 & 1.63 meter	L-10:21 & 1.44 meter	H-06:00 & 5.8 meter	L-07:50 & 1.29 meter	L-15:19 & 1.62 meter	
	ride details	Tiı	me/High Tide level	H-15:15 & 5.44 meter	H-16:17 & 5.20 meter	H-16:06 & 5.25 meter	H-18:42 & 5.1 meter	H-13:44 & 5.97 meter	H-22:03 & 5.26 meter	
<b>1</b> Te	emperature	оС	IS3025(P9)84Re.02	29	29	28	29	29	29	
<b>2</b> p⊢	1		IS3025(P11)83Re.02	6.86	7.2	7.53	8.02	7.46	7.67	
<b>3</b> To	otal Dissolved Solids	mg/L	IS3025(P16)84Re.02	42625	36660	35705	60637	69720	61000	
<b>4</b> Sa	alinity	ppt	APHA 2520B	43.52	44.92	51.1	59.15	55.06	50.2	
<b>5</b> Ch	nloride as Cl	mg/L	IS3025(P32)88Re.99	24092	24867	28291	32739	30490	27791	
<b>6</b> De	epth of Water from Ground Level	meter		1.98	2.15	1.93	1.92	2.28	3.15	

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H. T. Shah Lab Manager



# **Results of Bore Hole Water**

SR.	TEST PARAMETERS			NEAR PUB BUILDING					
NO.	ILSI PARAMETERS	Unit	TEST METHOD	16/10/2015	16/11/2015	15/12/2015	16/01/2016	16/02/2016	17/03/2016
	Sampling 1	Time		12:15	3:00	12:05	11:45	10:45	3:35
	Tide descite	Tii	me/Low Tide level	L-09:29 & 1.54 meter	L-10:34 & 1.63 meter	L-10:21 & 1.44 meter	H-06:00 & 5.8 meter	L-07:50 & 1.29 meter	L-15:19 & 1.62 meter
	Tide details		me/High Tide level	H-15:15 & 5.44 meter	H-16:17 & 5.20 meter	H-16:06 & 5.25 meter	H-18:42 & 5.1 meter	H-13:44 & 5.97 meter	H-22:03 & 5.26 meter
1	Temperature	оС	IS3025(P9)84Re.02	30	28	29	30	30	30
2	pH		IS3025(P11)83Re.02	7.57	8.03	7.96	8.1	7.92	8.54
3	Total Dissolved Solids	mg/L	IS3025(P16)84Re.02	5198	5358	3780	5880	3045	6400
4	Salinity	ppt	APHA 2520B	4.22	4.24	4.4	4.87	2.07	4.96
5	Chloride as Cl	mg/L	IS3025(P32)88Re.99	2339	2349	2439	2699	1149	2749
6	Depth of Water from Ground Level	meter		2.23	1.9	2.3	2.1	1.92	2.7

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H. T. Shah Lab Manager





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### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/09/A-DK001	Report Issue Date:	13/09/2016
Service Request form No.:	UERL/AIR/SRF/09/001	Service Request Date	01/09/2016
Sample ID No.:	UERL/AIR/ID/A-16/09/001	Field Data Sheet No.:	UERL/AIR/FDS/A-16/09/001
Name & Add. of Customer	M/s. Dorf Ketal Speciality Ca Plot No. 2, Block – F, Sector 12N, Adani Port and So		/0421, INDIA
Dates of Sampling:	01/09/2016	Date of Testing	05/09/2016
Sampling Procedure:	CPCB Guideline		\$
Location of Sampling / Monito	ring: A – 1 (Nr. ETP)		

**Details of Master Instrument Used for Monitoring** 

, Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/01	Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2016	20/08/2017
UERL/AIR/FPS/38	Fine Particulate Sampler	135 – DTL – 2012	01/02/2016	31/01/2017

**General Sampling / Monitoring Observation as per CPCB Guideline** 

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.28
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1843
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.10
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

		reser arameter nesales				
	Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1	1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	74	100	IS - 5182, Part - 23
J	2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	23	60	CPCB Manual Volume – 1
	3.	Sulphur Dioxide	μg/M³	12.7	80	IS – 5182, Part – 2
	4.	Nitrogen Dioxide	μg/M³	20.5	80	IS - 5182, Part - 6
	5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
	6.	Ozone	μg/M³	BDL	100	Chemical Method
	7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
	8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22
•	9.	Nickel	ng/m³	BDL	20	IS – 5182, Part – 22
	10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
	11.	Benzene*	μg/m³	BDL	5.0	IS – 5182, Part – 11
	12.	Benzo pyrene*	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

(Chemist) / (Supervisor)

(Chemist) / (Sr. Chemist

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#### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/09/A	-DK003	Report Issue Date:	13/09/2016
Service Request form No.:	UERL/AIR/SRF/	09/003	Service Request Date	01/09/2016
Sample ID No.:	UERL/AIR/ID/A	-16/09/003	Field Data Sheet No.:	UERL/AIR/FDS/A-16/09/003
Name & Add. of Customer	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.			02.1127 till (1.05) (0.05)
	Plot No. 2, Bloc	k − F,	•	
	Sector 12N, Ada	ani Port and Sez	, Dist: Kutch , Gujarat – 3704	121, INDIA
Dates of Sampling:	01/09/2016		Date of Testing	05/09/2016
Sampling Procedure:	CPCB Guideline	!		
Location of Sampling / Monito	oring: A-2	(Nr. Ware Hous	se)	

**Details of Master Instrument Used for Monitoring** 

Instrument Name	Serial Number	Cali. Date	Next Cali. Date
Respirable Dust Sampler	1861-DTL, 4178-DTL-2010	01/11/2015	31/10/2016
Fine Particulate Sampler	128 – DTK – 2012	01/02/2016	31/01/2017
	Respirable Dust Sampler	Respirable Dust Sampler 1861-DTL, 4178-DTL-2010 Fine Particulate Sampler 128 – DTK – 2012	Respirable Dust Sampler         1861-DTL, 4178-DTL-2010         01/11/2015           Fine Particulate Sampler         128 - DTK - 2012         01/02/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h .	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.3
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1872
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.15
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

# **Test Parameter Results**

	1eser drameter nesares				
Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	57	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	13	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	10.5	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	19.1	80	IS - 5182, Part - 6
5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS – 5182, Part – 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene*	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene*	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

(Chemist) / (Supervisor) (A 1-T)

(Chemist) / (Sr. Chemist)

**Tested By:** 

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UERL/AIR/F-05/02

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OHSAS18001:2007 Certified ISO 9001:2015 Certified Company 160509019108

#### **TEST REPORT**

(AMBIENT AIR MONITORING)

	· · · · · · · · · · · · · · · · · · ·		*
Test Report No.:	UERL/16/09/A-DK002	Report Issue Date:	13/09/2016
Service Request form No.:	UERL/AIR/SRF/09/002	Service Request Date	01/09/2016
Sample ID No.:	UERL/AIR/ID/A-16/09/002	Field Data Sheet No.:	UERL/AIR/FDS/A-16/09/002
Name & Add. of Customer	M/s. Dorf Ketal Speciality C Plot No. 2, Block – F, Sector 12N, Adani Port and	atalyst Pvt. Ltd. Sez, Dist: Kutch , Gujarat – 370	421, INDIA
Dates of Sampling :	01/09/2016	Date of Testing	05/09/2016
Sampling Procedure:	CPCB Guideline		
Location of Sampling / Monito	oring: A – 3 (Nr. Main G	ite / RMU)	and the same of th

**Details of Master Instrument Used for Monitoring** 

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/11	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	01/11/2015	31/10/2016
UERL/AIR/FPS/36	Fine Particulate Sampler	112 – DTK – 2012	01/02/2016	31/01/2017

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.29
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1857
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.13
5.	Flow Rate for Gas	L/min	1,5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	68	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	19	60	CPCB Manual Volume - 1
3.	Sulphur Dioxide	μg/M³	13.5	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	21.6	80	IS - 5182, Part - 6
5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M³	BDL	100	Chemical Method
7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS – 5182, Part – 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene*	μg/m³	BDL	5.0	IS – 5182, Part – 11
12.	Benzo pyrene*	ng/m³	BDL	1.0	IS – 5182, Part – 12

Sampling Done By:

(Chemist) / (Supervisor) (A-1-11

**Tested By** 

(Chemist) / (Sr. Chemist)

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Page No.: 1 of 1



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#### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/08/A-DK001	Report Issue Date:	20/08/2016
Service Request form No.:	UERL/AIR/SRF/08/001	Service Request Date	11/08/2016
Sample ID No.:	UERL/AIR/ID/A-16/08/001	Field Data Sheet No.:	UERL/AIR/FDS/A-16/08/001
Name & Add. of Customer	M/s. Dorf Ketal Speciality Ca	talyst Pvt. Ltd.	OEILE/AIII/1 D3/A-10/08/001
	Plot No. 2, Block – F,		
	Sector 12N, Adani Port and Se	ez, Dist: Kutch, Gujarat – 37	0421, INDIA
Dates of Sampling:	11/08/2016	Date of Testing	14/08/2016
Sampling Procedure:	CPCB Guideline		1 1, 40, 2010
Location of Sampling / Monitor	ring: A-1(Nr. ETP)		

**Details of Master Instrument Used for Monitoring** 

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali, Date
UERL/AIR/RDS/01	Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2015	20/08/2016
UERL/AIR/FPS/08	Fine Particulate Sampler	173-DTB-2010	01/09/2015	31/08/2016
C10-	1: / 8.6	1	01/03/2013	21/09/2010

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	13
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1872
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.15
5.	Flow Rate for Gas	L/min	15
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing : Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	50	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	14	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	9.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	18.6	80	IS - 5182, Part - 6
5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene*	μg/m <sup>3</sup>	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene*	ng/m³	BDL	1.0	IS – 5182, Part – 12

Sampling Done By:

(Chemist) / (Supervisor) (A R-1)

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### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	LIEDI /ac/on/a piron		
	UERL/16/08/A-DK003	Report Issue Date:	20/08/2016
Service Request form No.:	UERL/AIR/SRF/08/003	Service Request Date	11/08/2016
Sample ID No.:	UERL/AIR/ID/A-16/08/003	Field Data Sheet No.:	UERL/AIR/FDS/A-16/08/003
Name & Add. of Customer	M/s. Dorf Ketal Speciality Cat	alvst Pvt. Ltd.	<u> </u>
	Plot No. 2, Block – F,		
	Sector 12N, Adani Port and Se	z, Dist: Kutch , Gujarat – 3704	121. INDIA
Dates of Sampling:	11/08/2016	Date of Testing	14/08/2016
Sampling Procedure:	CPCB Guideline		12,700,2010
Location of Sampling / Monito	ring: A – 2 (Nr. Ware Hou	se)	

**Details of Master Instrument Used for Monitoring** 

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/12	Respirable Dust Sampler	1861-DTL, 4178-DTL-2010	01/11/2015	31/10/2016
UERL/AIR/FPS/06	Fine Particulate Sampler	270-DTE-2010	01/09/2015	31/08/2016
Congred Commit	/ 84		1 02,03/2013	31/00/2010

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation		
1.	Monitoring Duration	h	24		
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.28		
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1843		
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.10		
5.	Flow Rate for Gas	L/min	15		
6.	Volume of Air Sample for Gas	L	2160		

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	46	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	10	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	8.6	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	15.8	80	IS - 5182, Part - 6
5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS – 5182, Part – 22
9.	Nickel	ng/m³	BDL	20	IS – 5182, Part – 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene*	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene*	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

(Chemist) / (Supervisor)
(A. A. T.)

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#### **TEST REPORT**

### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/08/A-DK002	Report Issue Date:	20/08/2016
Service Request form No.:	UERL/AIR/SRF/08/002	Service Request Date	
			11/08/2016
Sample ID No.:	UERL/AIR/ID/A-16/08/002	Field Data Sheet No.:	UERL/AIR/FDS/A-16/08/002
Name & Add. of Customer	M/s. Dorf Ketal Speciality Cat	alyst Pvt. Ltd.	1
	Plot No. 2, Block – F,	•	
	Sector 12N, Adani Port and Se	z, Dist: Kutch, Gujarat – 3704	I21. INDIA
Dates of Sampling:	11/08/2016	Date of Testing	14/08/2016
Sampling Procedure:	CPCB Guideline		14/08/2010
Location of Sampling / Monito		· / RMU)	

**Details of Master Instrument Used for Monitoring** 

Instrument Id Ale				
Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/11	Posnirable Dust Committee	The second secon	Can. Date	Next Call. Date
OERC/ART/RD3/11	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	01/11/2015	31/10/2016
UERL/AIR/FPS/07	Fine Death of the		1 - 1 - 1	01,10,2010
	Fine Particulate Sampler	271-DTE-2010	01/09/2015	31/08/2016
General Samul	ing / Monitoring Observation			01/00/2010

Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.3
3.	Volume of Air Sampled for PM <sub>10</sub>	m³	1872
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.15
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

# **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	61	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	16	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	10.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	19.5	80	IS - 5182, Part - 6
5.	Carbon Monoxide*	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M³	BDL	100	Chemical Method
7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS – 5182, Part – 22
9.	Nickel	ng/m³	BDL	20	IS – 5182, Part – 22
10.	Arsenic	ng/m <sup>3</sup>	BDL	6.0	IS - 5182, Part - 22
11.	Benzene*	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene*	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

(Chemist) / (Supervisor) (A- a-1)

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#### **TEST REPORT**

### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/07/A-DK001	Report Issue Date:	23/07/2016	
Service Request form No.:	UERL/AIR/SRF/07/001	Service Request Date	14/07/2016	
Sample ID No.:	UERL/AIR/ID/A-16/07/001	Field Data Sheet No.:	UERL/AIR/FDS/A-16/07/001	
Name & Add. of Customer	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd. Plot No. 2, Block – F,			
	Sector 12N, Adani Port and Se	z, Dist: Kutch, Gujarat – 37	0421, INDIA	
Dates of Sampling :	14/07/2016	Date of Testing	17/07/2016	
Sampling Procedure:	CPCB Guideline			
Location of Sampling / Monito	ring: A – 1 (Nr. ETP )			

Details of Master Instrument Used for Monitoring

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/01	Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2015	20/08/2016
UERL/AIR/FPS/08	Fine Particulate Sampler	173-DTB-2010	01/09/2015	31/08/2016

**General Sampling / Monitoring Observation as per CPCB Guideline** 

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.28
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1843
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.23
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L .	2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	69	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	16	o 60 ·	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	10.2	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	19.7	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M³	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene	μg/m³	BDL	5.0	IS – 5182, Part – 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS – 5182, Part – 12

Sampling Done By:

(Chemist)

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#### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/07/A-DK003	Report Issue Date:	23/07/2016
Service Request form No.:	UERL/AIR/SRF/07/003	Service Request Date	14/07/2016
Sample ID No.:	UERL/AIR/ID/A-16/07/003	Field Data Sheet No.:	UERL/AIR/FDS/A-16/07/003
Name & Add. of Customer	M/s. Dorf Ketal Speciality Cat Plot No. 2, Block – F, Sector 12N, Adani Port and Se	•	
Dates of Sampling:	1/1/07/2016	D-1 - 5	17/07/2016
Sampling Procedure:	CPCB Guideline	Take of resums	17/07/2010
Location of Sampling / Monito	oring: A-2 (Nr. Ware Hou	se)	

## **Details of Master Instrument Used for Monitoring**

Instrument Name	Serial Number	Cali. Date	Next Cali. Date
Respirable Dust Sampler	1861-DTL, 4178-DTL-2010	01/11/2015	31/10/2016
Fine Particulate Sampler	270-DTE-2010		31/08/2016
	Respirable Dust Sampler	Respirable Dust Sampler 1861-DTL, 4178-DTL-2010	Respirable Dust Sampler 1861-DTL, 4178-DTL-2010 01/11/2015

#### General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.29
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1857
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.18
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	55	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	11	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	9.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	17.3	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL∷,∗⊹.	€2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

Matel! (Chemist) (A n-7)

CI-5-1]

Page No.: 1 of 1



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### **TEST REPORT**

(AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/07/A-DK002	Report Issue Date:	T-242-4-	
Service Request form No.:	UERL/AIR/SRF/07/002		23/07/2016	
Sample ID No.:		Service Request Date	14/07/2016	
	UERL/AIR/ID/A-16/07/002	Field Data Sheet No.:	UERL/AIR/FDS/A-16/07/002	
Name & Add. of Customer	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.			
	Plot No. 2, Block – F,			
	Sector 12N, Adani Port and Sez, Dist: Kutch , Gujarat – 370421, INDIA			
Dates of Sampling :	14/07/2016	Date of Testing		
Sampling Procedure:	CPCB Guideline	Date of Testing	17/07/2016	
Location of Sampling / Monito				
Details of Sampling / Monito		te / RMU)		

**Details of Master Instrument Used for Monitoring** 

١I	Instrument Id No.	Instrument Name			
4	UERL/AIR/RDS/11		Serial Number	Cali. Date	Next Cali. Date
ł	<u> </u>	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	01/11/2015	31/10/2016
Į	UERL/AIR/FPS/07	Fine Particulate Sampler	271-DTE-2010	01/09/2015	
	General Sampli	ng / Monitoring Observed		01/09/2015	31/08/2016

neral Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	·
2.	Flow Rate of PM <sub>10</sub>	m³/min	24
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1.3
4.	Volume of Air Sampled for PM <sub>2,5</sub>	m <sup>3</sup>	1872
5.	Flow Rate for Gas	L/min	24.21
6.	Volume of Air Sample for Gas	5,11111	1.5
	Employment IO III		2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

**Test Parameter Results** 

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	56	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	13.		CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	9.1	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	18.5	80	IS - 5182, Part - 6
5	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M³	BDL	100	Chemical Method
7	Ammonia	μg/M³	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m <sup>3</sup>	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

Matil (Chemist) (A R T)

(Chemist) / (Sr. Chemist)

**Tested By:** 

(-1-517)



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Gujarat Pollution Control Board OHSAS18001:2007 Certified ISO 9001:2015 Certified

Company 160509019108

#### **TEST REPORT**

# (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/06/A-DK001	Report Issue Date:	01/07/2016		
Service Request form No.:	UERL/AIR/SRF/06/001	Service Request Date	27/06/2016		
Sample ID No.:	UERL/AIR/ID/A-16/06/001	Field Data Sheet No.:	UERL/AIR/FDS/A-16/06/001		
Name & Add. of Customer	Name & Add. of Customer  M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.  Plot No. 2, Block – F,				
	Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA				
Dates of Sampling:	27/06/2016	Date of Testing	30/06/2016		
Sampling Procedure: CPCB Guideline					
Location of Sampling / Monito	ring: A-1(Nr. ETP)	<u> </u>			

**Details of Master Instrument Used for Monitoring** 

1	Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
Ĺ	UERL/AIR/RDS/01	Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2015	20/08/2016
	UERL/AIR/FPS/08	Fine Particulate Sampler	173-DTB-2010	01/09/2015	31/08/2016
	Compand Commit			1, -3/2023	<u> </u>

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.3
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1872
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.18
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Enterprise while

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	80	100	IS – 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	21	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	11.2	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	22.7	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS – 5182, Part – 22
11.	Benzene	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

Page No.: 1 of 1

12mg

Authorized By:

(Sr. Chemist)

(J. 11)



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ISO 9001:2015 Certified Company 160509019108

#### **TEST REPORT**

#### (AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/06/A-DK003	Report Issue Date:	01/07/2016	
Service Request form No.:	UERL/AIR/SRF/06/003		01/07/2016	
Sample ID No.:		Service Request Date	27/06/2016	
	UERL/AIR/ID/A-16/06/003	Field Data Sheet No.:	UERL/AIR/FDS/A-16/06/003	
Name & Add. of Customer	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd. Plot No. 2, Block – F,			
	Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA			
Dates of Sampling:	27/06/2016	Date of Testing	30/06/2016	
Sampling Procedure: CPCB Guideline S0/06/2016				
Location of Sampling / Monito		use)		

**Details of Master Instrument Used for Monitoring** 

١٢	Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
4	UERL/AIR/RDS/12	Respirable Dust Sampler	1861-DTL, 4178-DTL-2010	01/11/2015	31/10/2016
	UERL/AIR/FPS/06	Fine Particulate Sampler	270-DTE-2010	01/09/2015	31/08/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	4.2
3.	Volume of Air Sampled for PM <sub>10</sub>	, 3	1.3
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m m <sup>3</sup>	24.23
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	60 🐍	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	15	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	10.5	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	18.6	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS - 5182, Part - 22
10.	Arsenic	ng/m³	BDL	6.0	IS - 5182, Part - 22
11.	Benzene	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

Tested By:

Authorized By:

(Sr. Chemist) へびかり

Page No.: 1 of 1



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OHSAS18001:2007 Certified ISO 9001:2015 Certified

Company 160509019108

#### **TEST REPORT**

# (AMBIENT AIR MONITORING)

		nomina)		
Test Report No.:	UERL/16/06/A-DK002	Report Issue Date:	01/07/2016	
Service Request form No.:	UERL/AIR/SRF/06/002	Service Request Date		
Sample ID No.:	UERL/AIR/ID/A-16/06/002		27/06/2016	
Name & Add. of Customer		Field Data Sheet No.:	UERL/AIR/FDS/A-16/06/002	
Name & Add. of Customer	M/s. Dorr Ketal Speciality Catalyst Pvt. Ltd.			
	Plot No. 2, Block – F,			
	Sector 12N, Adani Port and Sez,	Dist: Kutch , Gujarat – 3704	421 INDIA	
Dates of Sampling:	27/06/2016	Date of Testing	30/06/2016	
Sampling Procedure:	CPCB Guideline	- ace or resting	30/06/2016	
Location of Sampling / Monito	<del></del>	/ PMIII		
N D : 11 C : 1	- Timi Mail Cate	- INITIO J		

**Details of Master Instrument Used for Monitoring** 

Instrument Id No.	Inchrime and Name			
11-21 11-21	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/11	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	01/11/2015	
UERL/AIR/FPS/07	Fine Particulate Commit		01/11/2015	31/10/2016
	Fine Particulate Sampler	271-DTE-2010	01/09/2015	31/08/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.28
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1843
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.20
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	i	
<i>D</i>	Environmental Canditions de la contra		2160

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

**Test Parameter Results** 

	Test Faranteter Results			Part of the second	
Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	71	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	15	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	8.6	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	20.5	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182, Part - 22
9.	Nickel	ng/m³	BDL	20	IS – 5182, Part – 22
10.	Arsenic	ng/m³	BDL	6.0	IS – 5182, Part – 22
11.	Benzene	μg/m³	BDL	5.0	IS - 5182, Part - 11
12.	Benzo pyrene	ng/m³	BDL	1.0	IS - 5182, Part - 12

Sampling Done By:

**Tested By:** 

Authorized/By:

(K2-m)

(Chemist) / (Sr. Chemist)

(Sr. Chemist) (コーショ)

Page No.: 1 of 1



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MoEF&CC (GOI) Recognized Environment Laboratory Unider the Chemical: T-2239 Biological: T-2240 Consultant Organization (14.02.2014 to 14.09.2016) (15.09.2014 to 14.09.2016) (14.02.2014 to 13.02.2017) Environmental Auditor (Schedule-III) OHSAS18001:2007 Certified (Govt. of Gujarat) Recognized (Govt. of Gujarat) Recognized (Invironmental Auditor (Schedule-III) TNV 150520039101

#### **TEST REPORT**

(AMBIENT AIR MONITORING)

		- Worth Oklind		
Test Report No.:	UERL/16/05/A-DK001	Report Issue Date:	14/05/2016	
Service Request form No.:	UERL/AIR/SRF/05/001	Service Request Date		
Sample ID No.:	UERL/AIR/ID/A-16/05/001	Field Data Sheet No.:	06/05/2016	
Name & Add. of Customer	M/s. Dorf Ketal Speciality C	atalyst Pvt. Ltd.	UERL/AIR/FDS/A-16/05/001	
	Plot No. 2, Block – F,			
	Sector 12N, Adani Port and S Dist: Kutch , Gujarat – 37042			
Dates of Sampling:	06/05/2016	Date of Testing	09/05/2016	
Sampling Procedure:	CPCB Guideline		03/03/2010	
Location of Sampling / Monitor	<del></del>			

**Details of Master Instrument Used for Monitoring** 

. 1			<del></del>		
	Instrument Id No.	Instrument Name	Serial Number	Cali. Date	
	UERL/AIR/RDS/01	Described D. 10		Call. Date	Next Cali. Date
		Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2015	20/08/2016
	UERL/AIR/FPS/08	Fine Particulate Sampler		21/00/2013	20/08/2016
	02.12/7.111/113/00	Time Farticulate Sampler	173-DTB-2010	01/09/2015	31/08/2016
	Conoral Campli	no / N/auta - 1		1 92/03/2013	21/00/2010

General Sampling / Monitoring Observation as per CPCB Guideline

Description	Unit of measurement	Observation
Monitoring Duration	h	
Flow Rate of PM <sub>10</sub>	m³/min	24
Volume of Air Sampled for PM <sub>10</sub>	3	1.25
Volume of Air Sampled for PM <sub>2,5</sub>	3	1800 24.25
Flow Rate for Gas		24.25
Volume of Air Sample for Gas		2160
	Monitoring Duration  Flow Rate of PM <sub>10</sub> Volume of Air Sampled for PM <sub>10</sub> Volume of Air Sampled for PM <sub>2.5</sub> Flow Rate for Gas	Monitoring Duration  Flow Rate of PM <sub>10</sub> Volume of Air Sampled for PM <sub>10</sub> Volume of Air Sampled for PM <sub>2.5</sub> Flow Rate for Gas  M  h  m³/min  m³  volume of Air Sampled for PM <sub>2.5</sub> Flow Rate for Gas  L/min

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	86	100	IS – 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	25	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	13.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	24.5	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M³	BDL	100	Chemical Method
7	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182. Part - 22

Sampling Done By:

Tested By:

(LL m)

(Chemist) / (Sr. Chemist)

Page No.: 1 of 1

(3-37)



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#### **TEST REPORT**

(AMBIENT AIR MONITORING)

( minimal transfer of the control of					
Test Report No.:	UERL/16/0	05/A-DK003	Report Issue Date:	14/05/2016	
Service Request form No.:	UERL/AIR/	SRF/05/003	Service Request Date	06/05/2016	
Sample ID No.:	UERL/AIR/	LIEDI (AID ID IA 46 IOT IOCO			
Name & Add. of Customer	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.  UERL/AIR/FDS/A-16/05/003  UERL/AIR/FDS/A-16/05/003				
	Plot No. 2, Block – F,				
	Sector 12N	l, Adani Port and Se	z,	•	
	Dist: Kutch	, Gujarat – 370421,	, INDIA		
Dates of Sampling:	05/05/2015			09/05/2016	
Sampling Procedure: CPCB Guideline			100,00,2010		
Location of Sampling / Monitoring: A – 2 (Nr. Ware House			se)		

**Details of Master Instrument Used for Monitoring** 

71					
	Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
	UERL/AIR/RDS/12	Respirable Dust Sampler	1961 DTL 4170 DTL 2010		
-			1861-DTL, 4178-DTL-2010	01/11/2015	31/10/2016
L	UERL/AIR/FPS/06	Fine Particulate Sampler	270-DTE-2010	01/09/2015	31/08/2016
	Conound Commel				

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	1.3
3.	Volume of Air Sampled for PM <sub>10</sub>	m³	1872
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	24.20
5.	Flow Rate for Gas	L/min	1.5
6.	Volume of Air Sample for Gas	L	2160

Environmental Conditions during testing: Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

**Test Parameter Results** 

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	68	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	12	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M <sup>3</sup>	12.1	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	21.4	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182, Part - 22

Sampling Done By:

**Tested By:** 

Authorized)By:

(Chemist) / (Sr. Chemist)

CJ- 8-11

Page No.: 1 of 1



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#### **TEST REPORT**

(AMBIENT AIR MONITORING)

Test Report No.:	HERI /16	/05/A-DK002			
			Report Issue Date:	14/05/2016	
Service Request form No.:	UERL/AIF	R/SRF/05/002	Service Request Date	06/05/2016	
Sample ID No.:	UERL/AIF	R/ID/A-16/05/002	Field Data Sheet No.:	UERL/AIR/FDS/A-16/05/002	
Name & Add. of Customer	M/s. Dor	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.			
	Plot No. 2	Plot No. 2, Block – F,			
	Sector 12	N, Adani Port and Se	z,		
	Dist: Kuto	h , Gujarat – 370421	, INDIA		
Dates of Sampling:	06/05/20		Date of Testing	00/05/2016	
Sampling Procedure:	CPCB Guideline Date of Testing 09/05/2016			09/05/2018	
Location of Sampling / Monito		A – 3 (Nr. Main Gate	/ OHC)		

**Details of Master Instrument Used for Monitoring** 

1					
	Instrument Id No.	Instrument Name	Serial Number	Cali. Date	AL 10 " > .
	UERL/AIR/RDS/11	Pospirable Dust Carrell			Next Cali. Date
	021(2) (11) (105) 11	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	01/11/2015	31/10/2016
	UERL/AIR/FPS/07	Fine Double Late C		02/11/2013	31/10/2010
	OLINI/AIN/173/07	Fine Particulate Sampler	271-DTE-2010	01/09/2015	31/08/2016
	Conoral Cameral			01/03/2013	21/00/2010

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	24
3	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1.25
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	1800
5.	Flow Rate for Gas	L/min	24.27
6.	Volume of Air Sample for Gas	Lymin	1.5
		L	2160

Environmental Conditions during testing : Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

**Test Parameter Results** 

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	76	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	18	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	10.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	19.3	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	CPCB Manual Volume – 1 IS – 5182, Part – 22

Sampling Done By:

Tested By:

(Chemist) / (Sr. Chemist)

Page No.: 1 of 1

( (L 2- m)

Authorized By:

(3-5-71



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#### **TEST REPORT**

(AMBIENT AIR MONITORING)

		MIN WILLIAM	MOMITORING)	
Test Report No.:	UERL/16/04/A-I	DK001	Report Issue Date:	28/04/2016
Service Request form No.:	UERL/AIR/SRF/0	04/001	Service Request Date	
Sample ID No.:	UERL/AIR/ID/A-		Field Data Sheet No.:	15/04/2016
Name & Add. of Customer M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.				UERL/AIR/FDS/A-16/04/001
	Plot No. 2, Block – F,			
	Sector 12N, Adai	ni Port and Se	ez,	
	Dist: Kutch , Guja	arat – 370421	l, INDIA	
Dates of Sampling:	15/04/2016		Date of Testing	17/04/2016
Sampling Procedure:	CPCB Guideline	***************************************		1770472018
Location of Sampling / Monitor		ir. ETP )		

**Details of Master Instrument Used for Monitoring** 

- 1					
i	Instrument Id No.	Instrument Name	Serial Number	Call Date	
	UERL/AIR/RDS/01	Posnirable Dust Co		Cali. Date	Next Cali. Date
		Respirable Dust Sampler	1254-DTG & 3490-DTG-2008	21/08/2015	20/08/2016
Ì	UERL/AIR/FPS/08	Fine Particulate Sampler			
٠	Conoral Campli		173-DTB-2010	01/09/2015	31/08/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM <sub>10</sub>	m³/min	24
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1.3
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	1872
5.	Flow Rate for Gas	L/min	24.10
6.	Volume of Air Sample for Gas	L/mm	1.5
<u> </u>	Environmental Conditions during testing · Temp	· 25 + 5 °C Poletics II : 111 - 20 - 20 - 20 - 20 - 20 - 20 - 20	2160

ring testing: 1 emp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

# **Test Parameter Results**

	TOST T GI GINCECT TESGIES				
Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	92	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M³	21	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	11.7	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	20.6	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	IS - 5182. Part - 22

Sampling Done By:

(Chemist) (K2-m)

Page No.: 1 of 1

**Tested By:** 

(Chemist) / (Sr. Chemist)

(3, 3, 7)



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#### **TEST REPORT**

# (AMBIENT AIR MONITORING)

Test Report No.:	LIEDI /a				
	UERL/1	6/04/A-DK003	Report Issue Date:	28/04/2016	
Service Request form No.:	UERL/A	IR/SRF/04/003	Service Request Date	15/04/2016	
Sample ID No.:	UERL/A	IR/ID/A-16/04/003	Field Data Sheet No.:	UERL/AIR/FDS/A-16/04/003	
Name & Add. of Customer		M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.			
	Plot No. 2, Block – F,				
£	Sector 12N, Adani Port and Sez,				
	Dist: Kutch , Gujarat – 370421, INDIA				
Dates of Sampling:	15/04/2		Date of Testing	17/04/2016	
Sampling Procedure:	CPCB Gu	ıideline	17/04/2016		
Location of Sampling / Monito		A – 2 (Nr. Ware Hou	se)		

**Details of Master Instrument Used for Monitoring** 

Instrument Id No.	Inches was and Manager			
	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/12	Respirable Dust Sampler	1861-DTL, 4178-DTL-2010	01/11/2015	
UERL/AIR/FPS/06	Fine Particulate Sampler	270-DTE-2010		31/10/2016
General Sampli	ng / Maritarina Observati	270-016-2010	01/09/2015	31/08/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No.	Description	Unit of measurement	Observation	
1.	Monitoring Duration	h	24	
2.	Flow Rate of PM <sub>10</sub>	m³/min	24	
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1872	
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m³	24.07	
5.	Flow Rate for Gas	L/min		
6.	Volume of Air Sample for Gas		1.5	
\[ \sqrt{1} \]	nvironmental Canditiana data tare	-	2160	

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

#### **Test Parameter Results**

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M³	76	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	15	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	11.5	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M³	20.3	80	IS - 5182, Part - 6
5.	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL.	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	CPCB Manual Volume – 1
8.	Lead	μg/M³	BDL	1.0	IS - 5182, Part - 22

Sampling Done By:

Authorized B

Ck2m,

(Chemist)

(Chemist) / (Sr. Chemist)

**Tested By:** 

(22)

Page No.: 1 of 1



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MoEF&CC (GOI) Recognized Environment NABL (ISO/IEC-17025) Accredited Laboratory Laboratory under the Chemical: T-2239 Biological: T-2240 Consultant Organization (Govt. of Gujarat) Recognized Laboratory Management System TNV 150520039101

#### **TEST REPORT**

(AMBIENT AIR MONITORING)

Test Report No.:	UERL/16/04/A-DK002	n				
		Report Issue Date:	28/04/2016			
Service Request form No.:	UERL/AIR/SRF/04/002	Service Request Date	15/04/2016			
Sample ID No.:	UERL/AIR/ID/A-16/04/002 Field Data Sheet No.:					
Name & Add. of Customer	M/s. Dorf Ketal Speciality C	M/s. Dorf Ketal Speciality Catalyst Pvt. Ltd.  UERL/AIR/FDS/A-16/04/002				
i	Plot No. 2, Block – F,					
• •	Sector 12N, Adani Port and S					
	Dist: Kutch , Gujarat – 370421, INDIA					
Dates of Sampling:	15/04/2016	Date of Testing	17/04/2016			
Sampling Procedure:	CPCB Guideline	- Duce of Testing				
Location of Sampling / Monito		te / OHC)	,			

**Details of Master Instrument Used for Monitoring** 

-			<u>, , , , , , , , , , , , , , , , , , , </u>		
	Instrument Id No.	Instrument Name	Serial Number	Cali Data	· · · · · · · · · · · · · · · · · · ·
	UERL/AIR/RDS/11	Respirable Dust Sampler	1851-DTK & 4134-DTJ-2010	Cali. Date	Next Cali. Date
	UERL/AIR/FPS/07			01/11/2015	31/10/2016
1	Conord Count	Fine Particulate Sampler	271-DTE-2010	01/09/2015	31/08/2016

General Sampling / Monitoring Observation as per CPCB Guideline

Sr. No. Description		Unit of measurement	Observation	
1.	Monitoring Duration	h		
2.	Flow Rate of PM <sub>10</sub>	m³/min	24	
3.	Volume of Air Sampled for PM <sub>10</sub>	m <sup>3</sup>	1.3	
4.	Volume of Air Sampled for PM <sub>2.5</sub>	m <sup>3</sup>	1872	
5.	Flow Rate for Gas	L/min	24.15	
6.	Volume of Air Sample for Gas		1.5	
/		<u> </u>	2160	

Environmental Conditions during testing: Temp.:  $25 \pm 5$  °C, Relative Humidity: 40 to 50%

**Test Parameter Results** 

Sr. No.	Test Parameter	Unit	Result	Specific Value (As per NAAQMS)	Test Method
1.	Particulate Matter. (PM <sub>10</sub> )	μg/M <sup>3</sup>	85	100	IS - 5182, Part - 23
2.	Particulate Matter. (PM <sub>2.5</sub> )	μg/M <sup>3</sup>	11	60	CPCB Manual Volume – 1
3.	Sulphur Dioxide	μg/M³	11.6	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide	μg/M <sup>3</sup>	21.8	80	IS - 5182, Part - 6
5	Carbon Monoxide	mg/M <sup>3</sup>	BDL	2.0	By using Gas Analyzer
6.	Ozone	μg/M <sup>3</sup>	BDL	100	Chemical Method
7.	Ammonia	μg/M <sup>3</sup>	BDL	400	
8.	Lead	μg/M <sup>3</sup>	BDL	1.0	CPCB Manual Volume – 1 IS – 5182, Part – 22

Sampling Done By:

(Chemist) CK2m1

Page No.: 1 of 1

**Tested By:** 

(Chemist) / (Sr. Chemist)

(7-5.7)



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Ph.: +91 281 2360695 

E-mail: royalenvironment@live.com 

admin@royalconsultancy.com

Ref.No.: 012/04/2016-17

Date:30/04/2016

# REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Company: Ahlstrom Fibercomposites India Pvt. Ltd.

Address: Mundra SEZ Intigrated Textile & Apparrle Park,

(MITAP), Plot No. - 07

Survey No. -141, Mundra,

Kutch-370421

Test Method: As per IS Standards - 5182 2/4/6

Sr.No.	Particulars	Unit	Location No. 1	Location No. 2
01.	Location of Sampling	****	Nr. New Security Gate	Nr. Old Security Gate
02.	Date of sampling		28/04/2016	28/04/2016
03.	Time of sampling	Hr.	9.50	10.15
04.	Duration of sampling	Hrs.	24.00	24.00
05.	Dominant Wind Direction (From)		NVV	NVV
06.	Average Wind Speed	Km/Hr.	4.1	4.6
07.	Average flow rate during sampling	m3/minute	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2
09.	Permissible Limits of P.M.2.5	μg/m3	60	60
10.	Measured Concentration of P.M.2.5	μg/m3	44	30
11.	Permissible Limits of P.M.10	μg/m3	100	100
12.	Measured Concentration of P.M.10	µg/m3	63	55
13.	Permissible Limits of SO2	μg/m3	80 .	80
14.	Measured Concentration of SO2	µg/m3	13.9	10.6
15.	Permissible Limits of NO2	μg/m3	80	80
16.	· Measured Concentration of NO2	µg/m3	25.2	18.4

Instrument Used : Ecotech make AAS - 217 BL , Gasious Sampler AAS 109, PM 2.5 Sampler AAS 127

All Calibration Due on.: 25/05/2016

Royal Environment Auditor & Consultancy Service



Manalyst Manalyst



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Ph.: +91 281 2360695 = E-mail: royalenvironment@live.com = admin@royalconsultancy.com

Ref.No.: 052/07/2016-17

Date:28/07/2016

## REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Company: Ahlstrom Fibercomposites India Pvt. Ltd.

Address:

Mundra SEZ Intigrated Textile & Apparrle Park,

(MITAP), Plot No. - 07

Survey No. -141, Mundra,

Kutch-370421

Test Method: As per IS Standards - 5182\_2/4/6

Sr.No.	Particulars	Unit	Location No. 1	Location No. 2
01.	Location of Sampling		Nr. New Security Gate	Nr. Old Security Gate
02.	Date of sampling		22/07/2016	23/07/2016
03.	Time of sampling	Hr.	9.30	10.00
04.	Duration of sampling	Hrs.	24.00	24.00
05.	Dominant Wind Direction (From)		NVV	NVV
06.	Average Wind Speed	Km/Hr.	4.8	5.1
07.	Average flow rate during sampling	m3/minute	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2
09.	Permissible Limits of PM2.5	μg/m3	60	60
10.	Measured Concentration of PM2.5	μg/m3	40	26
11.	Permissible Limits of PM <sub>10</sub>	μg/m3	100	100
12.	Measured Concentration of PM10	μg/m3	56	48
13.	Permissible Limits of SO <sub>2</sub>	μg/m3	80	80
14.	Measured Concentration of SO <sub>2</sub>	μg/m3	12.8	9.5
15.	Permissible Limits of NO <sub>2</sub>	μg/m3	80	80
16.	Measured Concentration of NO <sub>2</sub>	μg/m3	23.3	16.5

Instrument Used : Ecotech make AAS - 217 BL , Gasious Sampler AAS 109, PM 2.5 Sampler AAS 127

All Calibration Due on.: 15/05/2017



Manalyst of

Royal Environment Auditing & Consultancy Service



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MoEF&CC (GOI) Recognized Environment L a b o r a t o r y u n d e r t h e EPA-1986(12.01.2015 to 11.01.2020) [15.09.2014 to 14.09.2016] (15.09.2014 to 14.09.2016) [15.09.2014 to 14.09.2016] [15.09.2014 to 14.09.2014 to 14

# Monthly Average Report

**Ambient Air Quality Monitoring** 

Name and Address of Client

M/s. Adani Power Ltd, Village:Tunda& Siracha, Tal. Mundra, Dist.: Kutch. GUJARAT - 370 435.

Month of Monitoring

: April, 2016

Name of Location

: Nr. Wandh Village

		Concentration in Ambient Air (µg /m³)							
Sr. No.	Sampling Date	<b>PM</b> <sub>10</sub> μg/M <sup>3</sup>	<b>PM <sub>2.5</sub></b> μg/M <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> )µg/M <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> )μg/M <sup>3</sup>	Ozone (O <sub>3</sub> )µg/M <sup>3</sup>	Mercury (Hg) μg/M <sup>3</sup>		
100000000000000000000000000000000000000	3 Permissible (TWA for 24	100	60	80	80	100	N.A.		
1.	01/04/2016	79.1	37.0	10.7	18.7				
2.	02/04/2016	83.2	41.9	7.6	20.5				
3.	07/04/2016	92.2	51.2	77.5	17.3				
4.	08/04/2016	76.6	57.1	12.7	16.9	, m m .			
5.	14/04/2016	86.0	43.4	14.8	19.1				
6.	15/04/2016	74.4	47.0	9.1	20.2	BDL	BDL		
7.	21/04/2016	52.7	46.9	13.5	17.1				
8.	22/04/2016	89.4	52.4	15.1	20.5				
Avera	age	79.2	47.1	11.9	18.8	BDL	BDL		

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM<sub>10</sub> - IS: 5182 (Part 23), 2006, PM<sub>2.5</sub>- Guidelines by CPCB (Vol-1), SO<sub>2</sub> - IS: 5182 (Part 2), 2001, NO<sub>X</sub> - IS: 5182 (Part 6), 2006, Hg:AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb O3: IS - 5182 (Part 9) 2009Ozone BDL limit: 5 μg/m3

> **Unitstar Environment &** Research Labs Pvt. Ltd.



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# **Monthly Average Report**

### **Ambient Air Quality Monitoring**

Name and Address of Client

M/s. Adani Power Ltd, Village:Tunda& Siracha, Tal. Mundra, Dist.: Kutch. GUJARAT - 370 435.

Month of Monitoring

May, 2016

Name of Location

Nr. Wandh Village

		Concentration in Ambient Air (μg /m³)							
Sr. No.	Sampling Date	<b>PM<sub>10</sub></b> μg/M <sup>3</sup>	<b>PM</b> <sub>2.5</sub> μg/M <sup>3</sup>	Sulphur Dioxide (SO₂)µg/M³	Nitrogen Dioxide (NO₂)µg/M³	Ozone (O₃)μg/M³	Mercury (Hg) μg/M <sup>3</sup>		
	3 Permissible (TWA for 24	100	60	80	80	100	N.A.		
1.	01/05/2016	91.3	43.2	22.6	27.5	<u></u>			
2.	02/05/2016	87.6	41.9	11.8	16.6				
3.	07/05/2016	73.2	39.5	18.5	25.8				
4.	08/05/2016	83.7	37.6	14.2	20.5				
5.	14/05/2016	82.6	50.0	13.8	21.9				
6.	15/05/2016	77.5	45.9	21.8	25.4	BDL	BDL		
7.	21/05/2016	86.0	49.2	12.6	19.8				
8.	22/05/2016	71.7	48.3	25.1	20.5				
9.	30/05/2016	85.2	28.8	17.2	23.8				
10.	31/05/2016	81.9	36.2	25.4	27.5				
Avera	age	81.7	44.5	17.6	22.3	BDL	BDL		

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM<sub>10</sub> - IS: 5182 (Part 23), 2006, PM<sub>2.5</sub>- Guidelines by CPCB (Vol-1), SO<sub>2</sub> - IS: 5182 (Part 2), 2001, NO<sub>X</sub> - IS: 5182 (Part 6), 2006, Hg:AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb O3: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 μg/m3

> **Unitstar Environment &** Research Labs Pvt. Ltd.



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MoEF&CC (GOI) Recognized Environment Laboratory and ear the EPA-1986(12.01.2015 to 11.01.2020) (15.09.2014 to 14.09.2016) (14.02.2014 to 13.02.2017) (14.02.2014 to 13.02.2017) Environmental Auditor (Schedule-III) TNV 150520039101

# **Monthly Average Report**

## **Ambient Air Quality Monitoring**

Name and Address of Client

M/s. Adani Power Ltd, Village:Tunda& Siracha, Tal. Mundra, Dist.: Kutch. GUJARAT – 370 435.

Month of Monitoring

: June, 2016

Name of Location

: Nr. Wandh Village

Sr. Sampling No. Date		Concentration in Ambient Air (μg/m³)							
		<b>PM<sub>10</sub></b> μg/M <sup>3</sup>	<b>PM <sub>2.5</sub></b> μg/M <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> )µg/M <sup>3</sup>	Nitrogen Dioxide (NO₂)µg/M³	Ozone (O <sub>3</sub> )µg/M <sup>3</sup>	Mercury (Hg) μg/M <sup>3</sup>		
	3 Permissible (TWA for 24	100	60	80	80	100	N.A.		
1.	07/06/2016	91.3	43.2	12.6	17.5				
2.	08/06/2016	87.6	41.9	12.5	17.3	23.			
3.	13/06/2016	73.2	39.5	19.3	19.2				
4.	14/06/2016	83.7	37.6	11.5	26.3				
5.	22/06/2016	82.6	30.4	13.8	27.5				
6.	23/06/2016	77.5	33.1	10.5	19.3	BDL	BDL		
Avera	age	82.7	37.6	13.4	21.2	BDL	BDL		

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM<sub>10</sub> - IS: 5182 (Part 23), 2006, PM<sub>2.5</sub>- Guidelines by CPCB (Vol-1),  $SO_2$  - IS: 5182 (Part 2), 2001,  $NO_X$  - IS: 5182 (Part 6), 2006, Hg:AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb O3: IS - 5182 (Part 9) 2009Ozone BDL limit: 5  $\mu$ g/m3

Unitstar Environment & Research Laby Pvt. Ltd.



White House, Near G.I.D.C. Office, Char Rasta, Vapi-396 195, Gujarat, India. Phone: +91 260 2433966 / 2425610

Email: response@uerl.in Website: www.uerl.in

MoEF&CC (GOI) Recognized Environment Loboratory United Environment

# Monthly Average Report

# **Ambient Air Quality Monitoring**

Name and Address of Client

M/s. Adani Power Ltd,
 Village:Tunda& Siracha,
 Tal. Mundra, Dist.: Kutch.
 GUJARAT – 370 435.

**Month of Monitoring** 

: July, 2016

Name of Location

: Nr. Wandh Village

		Concentration in Ambient Air (μg /m³)							
Sr. No.	Sampling Date	<b>PM<sub>10</sub></b> μg/M <sup>3</sup>	<b>PM <sub>2.5</sub></b> μg/M <sup>3</sup>	Sulphur Dioxide (SO₂)µg/M³	Nitrogen Dioxide (NO₂)µg/M³	Ozone (O <sub>3</sub> )μg/M <sup>3</sup>	Mercury (Hg) μg/M <sup>3</sup>		
	Permissible (TWA for 24	100	60	80	80	100	N.A.		
1.	07/07/2016	84.2	31.9	13.2	20.8				
2.	08/07/2016	92.0	21.7	11.8	22.3	%. <u>.</u>			
3.	13/07/2016	87.7	38.1	19.3	22.8		<del></del>		
4.	14/07/2016	83.7	34.4	18.5	19.5				
5.	18/07/2016								
6.	19/07/2016			Rain	Fall				
7.	22/07/2016	57.0	21.3	21.3	21.3		<u></u>		
8.	23/07/2016	77.1	29.6	11.8	20.7	BDL	BDL		
Avera	age	80.3	29.5	14.6	21.2	BDL	BDL		

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999,  $PM_{10}$  - IS: 5182 (Part 23), 2006,  $PM_{2.5}$ - Guidelines by CPCB (Vol-1),  $SO_2$  - IS: 5182 (Part 2), 2001,  $NO_X$  - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb  $O_3$ : IS - 5182 (Part 9) 2009Ozone BDL limit: 5  $\mu g/m_3$ 

Unitstar Environment & Research Labs/Pvt. Ltd.



White House, Near G.I.D.C. Office, Char Rasta, Vapi-396 195, Gujarat, India. Phone: +91 260 2433966 / 2425610

Email: response@uerl.in Website: www.uerl.in

MoEF&CC (GOI) Recognized Environment L ABL (ISO/IEC-17025) Accredited Laboratory L a boratory U n d e r t h e EPA-1986(12.01.2015 to 11.01.2020) (15.09.2014 to 14.09.2016) (14.02.2014 to 13.02.2017) (14.02.2014 to 13.02.2017) (14.02.2014 to 13.02.2017) (15.09.2016 to 11.01.2020) (15.09.2014 to 14.09.2016) (15.09.2016 to 11.01.2020) (15.09.2016

# Monthly Average Report

### **Ambient Air Quality Monitoring**

Name and Address of Client

M/s. Adani Power Ltd, Village:Tunda& Siracha, Tal. Mundra, Dist.: Kutch. GUJARAT - 370 435.

Month of Monitoring

: August, 2016

Name of Location

Nr. Wandh Village

			Cor	ncentration in A	mbient Air (µg /	m³)	
Sr. No.	Sampling Date	<b>PM</b> <sub>10</sub> μg/M <sup>3</sup>	<b>PM</b> <sub>2.5</sub> μg/M <sup>3</sup>	Sulphur Dioxide (SO₂)µg/M³	Nitrogen Dioxide (NO <sub>2</sub> )μg/M <sup>3</sup>	Ozone (O <sub>3</sub> )µg/M <sup>3</sup>	Mercury (Hg) μg/M <sup>3</sup>
100000000000000000000000000000000000000	Permissible (TWA for 24	100	60	80	80	100	N.A.
1.	01/08/2016	72.4	33.0	13.2	17.5		
2.	02/08/2016	86.4	38.3	10.2	19.6		
3.	08/08/2016	48.5	23.4	13.5	17.8		
4.	09/08/2016	54.8	23.0	11.6	15.5		
5.	16/08/2016	78.9	28.8	9.8	14.5	-	
6.	17/08/2016	85.4	34.7	15.2	21.7		
7.	23/08/2016	59.9	18.2	19.6	24.6	-	
8.	25/08/2016	63.5	20.3	13.8	18.5		
9.	29/08/2016	82.7	32.3	12.4	20.7		
10.	30/08/2016	87.4	37.0	14.7	22.3		
Avera	ge	72.0	28.9	13.4	19.3	BDL	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM<sub>10</sub> - IS: 5182 (Part 23), 2006, PM<sub>2.5</sub>- Guidelines by CPCB (Vol-1), SO<sub>2</sub> - IS: 5182 (Part 2), 2001, NO<sub>X</sub> - IS: 5182 (Part 6), 2006, Hg:AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb O3: IS - 5182 (Part 9) 2009Ozone BDL limit: 5 μg/m3

> **Unitstar Environment &** Research Labs Pvt. Ltd.



White House. Near G.I.D.C. Office, Char Rasta, Vapi-396 195, Gujarat, India. Phone: +91 260 2433966 / 2425610

Email: response@uerl.in Website: www.uerl.in

MoEF&CC (GOI) Recognized Environment Laboratory under the EPA-1986(12.01.2015 to 11.01.2020)

QCI-NABET Accredited EIA Consultant Organization (14.02.2014 to 13.02.2017)

Gujarat Pollution Control Board (Govt. of Gujarat) Recognized Environmental Auditor (Schedule-II)

OHSAS18001:2007 Certified ISO 9001:2015 Certified Laboratory Management System T N V 1 5 0 5 2 0 0 3 9 1 0 1

Company 160509019108

# **Monthly Average Report**

# **Ambient Air Quality Monitoring**

Name and Address of Client

M/s. Adani Power Ltd, Village:Tunda& Siracha, Tal. Mundra, Dist.: Kutch. GUJARAT - 370 435.

Month of Monitoring

September, 2016

Name of Location

Nr. Wandh Village

		Concentration in Ambient Air (μg /m³)							
Sr. No.	1 0	<b>PM</b> <sub>10</sub> μg/M <sup>3</sup>	<b>PM <sub>2.5</sub></b> μg/M <sup>3</sup>	Sulphur Dioxide (SO <sub>2</sub> )µg/M <sup>3</sup>	Nitrogen Dioxide (NO <sub>2</sub> )μg/M <sup>3</sup>	Ozone (O <sub>3</sub> )μg/M <sup>3</sup>	Mercury (Hg) μg/M³		
	3 Permissible (TWA for 24	100	60	80	80	100	N.A.		
1.	05/09/2016	83.7	36.7	15.6	22.6				
2.	06/09/2016	88.3	38.7	12.2	19.3				
3.	12/09/2016	82.4	39.2	11.4	21.4				
4.	12/09/2016	77.1	32.1	15.1	22.1				
5.	18/09/2016	74.5	31.6	12.3	19.9	BDL	BDL		
6.	19/09/2016	86.2	34.2	14.2	17.5				
7.	26/09/2016	87.2	33.4	15.2	22.3				
8.	27/09/2016	81.9	36.6	17.3	23.7				
Avera	ige	82.7	35.3	14.2	21.1	BDL	BDL		

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM<sub>10</sub> - IS: 5182 (Part 23), 2006, PM<sub>2.5</sub>- Guidelines by CPCB (Vol-1), SO<sub>2</sub> - IS: 5182 (Part 2), 2001, NO<sub>X</sub> - IS: 5182 (Part 6), 2006, Hg:AAS by VGA Method -3112 B APHA 22 Edison&Hg: 2 ppb O3: IS - 5182 (Part 9) 2009Ozone BDL limit: 5 μg/m3

> **UniStar Environment &** Research Labs Pvt. Ltd.



# Adani Ports and Special Economic Zone Limited, Mundra.

From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# ANNEXURE - 6



Valued Quality. Delivered.

### Intertek India Private Limited

**Division: Commodities** 201 TO 204, Second Floor, Plot No. 4056, GIDC III, Shiv Commercial Complex, Dared, Jamnagar - 361004. India.

Tel: +91 0288 2730463 / 2731064 / 2731067

Telefax: +91 0288 2731037

operations.cbe-jamnagar@intertek.com

www.intertek.com

# **TEST REPORT**

REPORT NO.	: IIPL/JMN/S-1480/2016	SAMPLE ID NO.	2674	-
RECEIVED DATE	: 08.11.2016	REPORTED DATE	08.11.2016	-

NAME OF APPLICANT	:	ADANI PORT AND SPECIAL ECONOMIC ZONE LTD.	
ADDRESS OF APPLICANT		P.O. BOX 1, MUNDRA-370421 KUTCH, GUJARAT INDIA.	
SAMPLES RECEIVED FROM	;	ADANI PORT AND SPECIAL ECONOMIC ZONE LTD.	
SAMPLE DESCRIPTIONS (AS	DECL	ARED)	
PRODUCT NAME		HF HSD	
SAMPLE STATUS	1 :	SEALED & SATISFACTORY	
OTHER DETAILS		RFF. (01) TANK NO 101 COMPOSITE SAMPLE	

# THE ABOVE SAMPLE(S) WAS/WERE EXAMINED AS DETAILED ABOVE AND THE FOLLOWING RESULTS OBTAINED.

				SOLIS OBIAINED
TEST	UNIT	RESULT	SPECIFICATION	TEST METHOD
APPEARANCE		Clear and bright	Clear and bright	VISUAL
DENSITY @ 15.0°C	Kg/M <sup>3</sup>	849.0	820-860	ASTM D 4052
FLASH POINT	°C	72	MIN 60	ASTM D 4032
POUR POINT	°C	-6	MAX 0	ASTM D 93
SULPHUR CONTENT	ppm	424	MAX 500	ASTM D 4294
ASH CONTENT	%	0.0018	MAX 0.01	ASTM D 4294 ASTM D 482
WATER CONTENT	Mg/kg	<0.025	MAX 0.05	ASTM D 482
ACIDITY	Mg.KOH/Gm	0.051	MAX 2.5	ASTM D 6304
CARBON RESIDUE @ 10.0% Recovery	%	0.07	MAX 0.3	ASTM D 4530
NET CALORIFIC VALUE	MJ/KG	43.02	MIN 40	ASTM D 4330
SEDIMENT BY EXTRACTION	%	0.0018	MAX 0.05	ASTM D 473
CETANE INDEX :		53.2	MIN 46	
KINEMATIC VISCOSITY @ 40.0°C	cSt	3.705	2.0-5.0	ASTM D 976
CONCLUCTON ADOLE CALLE		21.03	2.0-3.0	ASTM D 445

CONCLUSION: ABOVE SAMPLE IS COMPLYING WITH GIVEN SPECIFICATION RESPECT TO THE ABOVE TESTED PARAMETERS

JAYANTI KORHVGA MANAGER LABORATORY



Declaration. This Certificate shall not be reproduced in full or in part without the written approval of Interfek Laboratories. The above results are related to the sample tested on date and time and # responsibility is solely to ensure that the analysis is conducted to standard. Test methods in accordance with industry accepted practice. We are not responsible for apparatus, instrumentation and measuring devices, their calibration or working order, Reagents and solution are accepted as prepared.

All jobs are performed as per Intertek Terms & Conditions available at http://www.intertek.com/terms/ or can be made available on request

LABQA

QA 328/A ISSUE No :01 ISSUE DATE: 01:04:2011

Page 1 of 1



# Adani Ports and Special Economic Zone Limited, Mundra.

From: April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# ANNEXURE - 7



भारत सरकार Government of India वाणिज्य और उदयोग मंत्रालय Ministry of Commerce & Industry

पट्टोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो) Petroleum & Explosives Safety Organisation (PESO) ए-1 और ए-2 विंग, पाँचवा तल, केंद्रीय कार्यालय परिसर, सी.बी.डी. बेलापुर

नवी मुंबई (महा.)- 400614 A1 & A2 wing, 5th Floor, C.G.O. complex, CBD Belapur, Navi Mumbai (M.S.), Mumbai - 400614

15070

E-mail: jtccemumbai@explosives.gov.in Phone/Fax No: 022 - 27575946.27573881

संख्या /No. : P/WC/GJ/14/4671 (P291058)

सेवा में /ा०,

M/s. ADANI PORTS AND SPECIAL ECONOMIC ZONE LTD., ADANI HOUSE,, P.O.BOX NO.1, MUNDRA,, MUNDRA, District: KUTCH, State: Gujarat PIN: 370421

दिनांक /Dated : 15/12/2015

18 UEC 2015.

विषय /Sub : Plot No, ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI,, VILLAGE DHRUB,, TAL MUNDRA, VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District: KUTCH, State: Gujarat, PIN: 999999 में स्थित विद्यमान पेट्रोलियम वर्ग A,B Consumer Pump की अनुजप्ति संख्या P/WC/GJ/14/4671 (P291058) - नवीकरण के संदर्भ में । Existing Petroleum Class A,B Consumer Pump at Plot No, ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI,, VILLAGE DHRUB,, TAL MUNDRA, VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District: KUTCH, State: Gujarat, PIN: 999999 - Licence No. P/WC/GJ/14/4671 (P291058) - Reg Renewal of Licence.

महोदय /Sir (s),

> कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या NIL दिनांक 02/12/2015 का संदर्भ ग्रहण करें । Please refer to your letter No. NIL dated 02/12/2015 on the subject.

अनुज्ञप्ति सं P/WC/GJ/14/4671 (P291058) दिनांक 07/07/2014 दिनांक 31/12/2018 तक नवीनीकृत कर लौटाई जा रही हैं । Licence No. P/WC/GJ/14/4671 (P291058) dated 07/07/2014 is returned herewith duly renewed upto 31/12/2018.

कृपया पेट्रोलियम नियम,2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें । अनुजप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2018 या उससे पहले इस कार्यालय में प्रस्त्त करें ।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to Dy. Chief Controller of Explosives, Vadodara, so as to reach his office on or before 31/12/2018. क्पया पावती दें । Please acknowledge the receipt.

Note: Your Balance Amount with the Organisation is Rs.100, which will be used for processing of the same Licence in future.

भवदीय /Yours faithfully.

(पी.सीनीराज)

(P. SEENIRAJ) विस्फोटक नियंत्रक Controller of Explosives कृते संयुक्त मुख्य विस्फोटक नियंत्रक For Jt. Chief Controller of Explosives नवी मुंबई (महा.) Mumbai

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : http://peso.gov.in देखें) (For more information regarding status, fees and other details please visit our website: http://peso.gov.in)





### GOVERNMENT OF INDIA MINISTRY OF COMMERCE & INDUSTRY

PETROLEUM AND EXPLOSIVES SAFETY ORGANISATION (PESO) A1 & A2 wing, 5th Floor, C.G.O. complex, CBD Belapur, Navi Mumbei (M.S.), Mumbal - 400614

E-mail: jtccemumbai@explosives.gov.in

Phone/Fax No: 022 - 27575946,27573881

No.: P/We/GJ/14/4671 (P291058)

Dated: 07/07/2014

M/s. ADAN! PORTS AND SPECIAL ECONOMIC ZONE LTD.,

ADANI HOUSE,

P.O.BOX NO.1, MUNDRA. .

MUNDRA,

District: KUTCH.

State: Gujarat

PÍN: 370421

Petroleum Class A,B Consumer Pump at Plot No, ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI,, VILLAGE DHRUB,, TAL MUNDRA, VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District:

KUTCH, State: Gujarat, PIN: 999999

Sir(s),

Please ofer to your letter No. NIL dated 07/07/2014

Licence No. P/WC/GJ/14/4671 (P291058) dated 07/07/2014 granted in Form XIV under the Petroleum Rules, 2002 and valid till 31/12/2014 for the storage of the following kind and quantities of Petroleum at the subject petrol pump is forwarded herewith.

Description of Petroleum

Quantity licenced in KL

Petroleum Class A in bulk

Petroleum Class B in bulk

5.00 KL 40.00 KL

**Total Capacity** 

45.00 KL

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to Dy. Chief Controller of Explosives, Vadodara, so as to reach his office on or before the date on which Licence expires.

This approval/permission, however, does not absolve from obtaining necessary permission/clearance from other authorities or under other statutes as applicable.

Note: Your Balance Amount with the Organisation is Rs.100, which will be used for processing of the same Licence in future.

Yours faithfully,

S K Shukla)

Dy. Chief Controller of Explosives For Jt. Chief Controller of Explosives

Mumbai

Copy forwarded to :-

1. The District Magistrate, KUTCH(Gujarat) with reference to his NOC No MAG/PET/NOC/SR/12/2012 Dated 12/03/2013

2. Dy. Chief Controller of Explosives, Vadodara. A Copy of the licence along with approved plan is enclosed.

For Jt. Chief Controller of Explosives Mumbai

(For more information regarding status, fees and other details please visit our website http://peso.gov.in)



भारत सरकार Government of India वाणिज्य और उदयोग मंत्रालय Ministry of Commerce & Industry पेट्रोलियम तथा विस्फोटक स्रक्षा संगठन (यैसो)

Petroleum & Explosives Safety Organisation (PESO) ए-1 और ए-2 विंग, पाँचवा तल, केंद्रीय कार्यालय परिसर, सी.बी.डी. बेलापुर

नती मुंबई (महा.)- 400614 A1 & A2 wing, 5th Floor, C.G.O. complex, CBD Belapur, Navi Mumbai (M.S.),

दिनांक /Dated : 10/04/2015

Mumbai - 400614

E-mail: itccemumbai@explosives.gov.in Phone/Fax No: 022 - 27575946,27573881

संख्या /No.: P/WC/GJ/14/4671 (P291058)

सेवा में /To.

M/s. ADANI PORTS AND SPECIAL ECONOMIC ZONE LTD., ADANI HOUSE,, P.O.BOX NO.1, MUNDRA,, MUNDRA, District: KUTCH, State: Gujarat PIN: 370421

विषय /Sub : Plot No, ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI,, VILLAGE DHRUB,, TAL MUNDRA, VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District: KUTCH, State: Gujarat, PIN: 999999 में स्थित विद्यमान पेट्रोलियम वर्ग A.B Consumer Pump की अनज़िन्त संख्या P/WC/GJ/14/4671 (P291058) - नवीकरण के संदर्भ में I Existing Petroleum Class A,B Consumer Pump at Plot No, ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI,, VILLAGE DHRUB, TAL MUNDRA, VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District: KUTCH, State: Gujarat, PIN: 999999 - Licence No. P/WC/GJ/14/4671 (P291058) - Reg Renewal of Licence.

महोदय /Sir (s),

> कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या NIL दिनांक 10/04/2015 का संदर्भ ग्रहण करें। Please refer to your letter No. NIL dated 10/04/2015 on the subject.

अनुजप्ति सं P/WC/GJ/14/4671 (P291058) दिनांक 07/07/2014 दिनांक 31/12/2015 तक नवीनीकृत कर लौटाई जा रही हैं । Licence No. P/WC/GJ/14/4671 (P291058) dated 07/07/2014 is returned herewith duly renewed upto 31/12/2015.

कृपया पेट्रोलियम नियम, 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कडाई से पालन करें । अन्जप्ति के नवीकरण हेत् समस्त दस्तावेजों को दिनांक 31/12/2015 या उससे पहले इस कार्यालय में प्रस्तृत करें।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to Dy. Chief Controller of Explosives, Vadodara, so as to reach his office on or before 31/12/2015. कृपया पावती दें । Please acknowledge the receipt.

Note: Your Balance Amount with the Organisation is Rs.100, which will be used for processing of the same Licence in future.

भवदीय /Yours faithfully,

(एस.के शुक्ला) (S K Shukla) उप मुख्य विस्फोटक नियंत्रक Dy. Chief Controller of Explosives कृते संयुक्त मुख्य विस्फोटक नियंत्रक For Jt. Chief Controller of Explosives नवी मुंबई (महा.)

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : http://peso.gov.in देखें) (For more information regarding status, fees and other details please visit our website: http://peso.gov.in)

# FORM XIV (see Article 5 of the First Schedule)



Licence No.: P/WC/GJ/14/4671(P291058)

Fee Rs. 2000/- per year

Page 1 of 1

Licence is hereby granted to M/s. ADANI PORTS AND SPECIAL ECONOMIC ZONE LTD., ADANI HOUSE, , P.O.BOX NO.1, MUNDRA, , MUNDRA, District: KUTCH, State: Gujarat, PIN: 370421 valid only for the storage of 5.00 KL of Petroleum class A and 40.00 KL of Petroleum class B in tank/s in the licensed premises described below and shown on the plan no: P/WC/GJ/14/4671(P291058) dated 07/07/2014 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

The Licence shall remain in force till the 31st day of December 2014

July 7, 2014

For Jt. Chief Controller of Explosives WC, Mumbai

# DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

The licensed premises, the boundaries of which are shown in the attached plan, are situated at Plot No: ADANI PORT AND SPECIAL ECONOMIC ZONE, NAVINAL ISLAND PAIKI, VILLAGE DHRUB, , TAL MUNDRA , VILLAGE DHRUB, KUTCH, Taluka: MUNDRA, District: KUTCH, State: Gujarat, PIN: 999999 and consist of:

1 number(s) underground gas tight tanks of capacity 5.00 kilolitres respectively of petroleum Class A connected with 1 number(s) electrically/manually operated dispensing pump(s)

2 number(s) underground gas tight tanks of capacity 20.00+ 20.00 kilolitres respectively of petroleum Class B connected with 1 number(s) electrically/manually operated dispensing pump(s).

A sales room/kiosk. C.

Servicing facilities consisting of AS PER APPROVED PLAN ATTACHED. As per attached plan



# Adani Ports and Special Economic Zone Limited, Mundra.

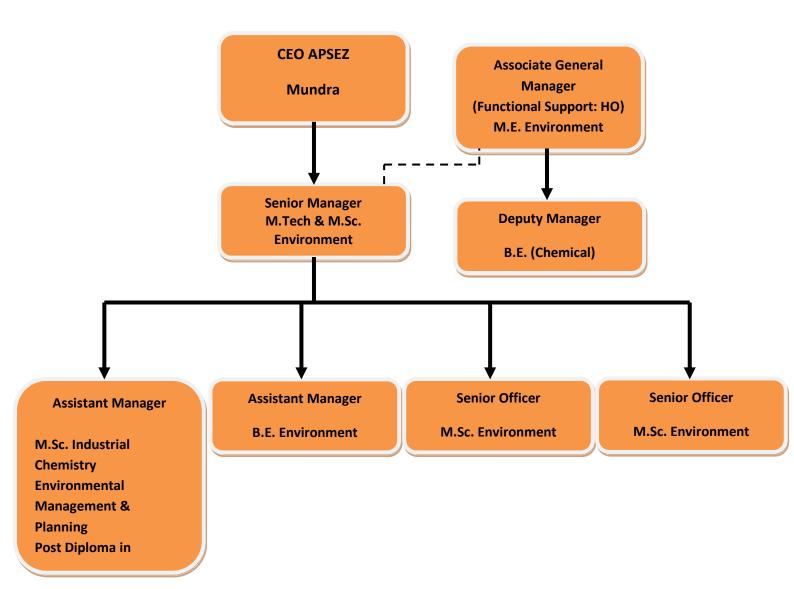
From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# ANNEXURE - 8

# Annexure – 8 Organogram of Environment Management Cell, APSEZ, Mundra





# Adani Ports and Special Economic Zone Limited, Mundra.

From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# ANNEXURE - 9

Annexure –

Photographs showing Solar System Installation







# Adani Ports and Special Economic Zone Limited, Mundra.

From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# **ANNEXURE - 10**

# adani

# Disaster Management Plan Mundra (Natural Calamities)

Cyclone



**Earthquake** 

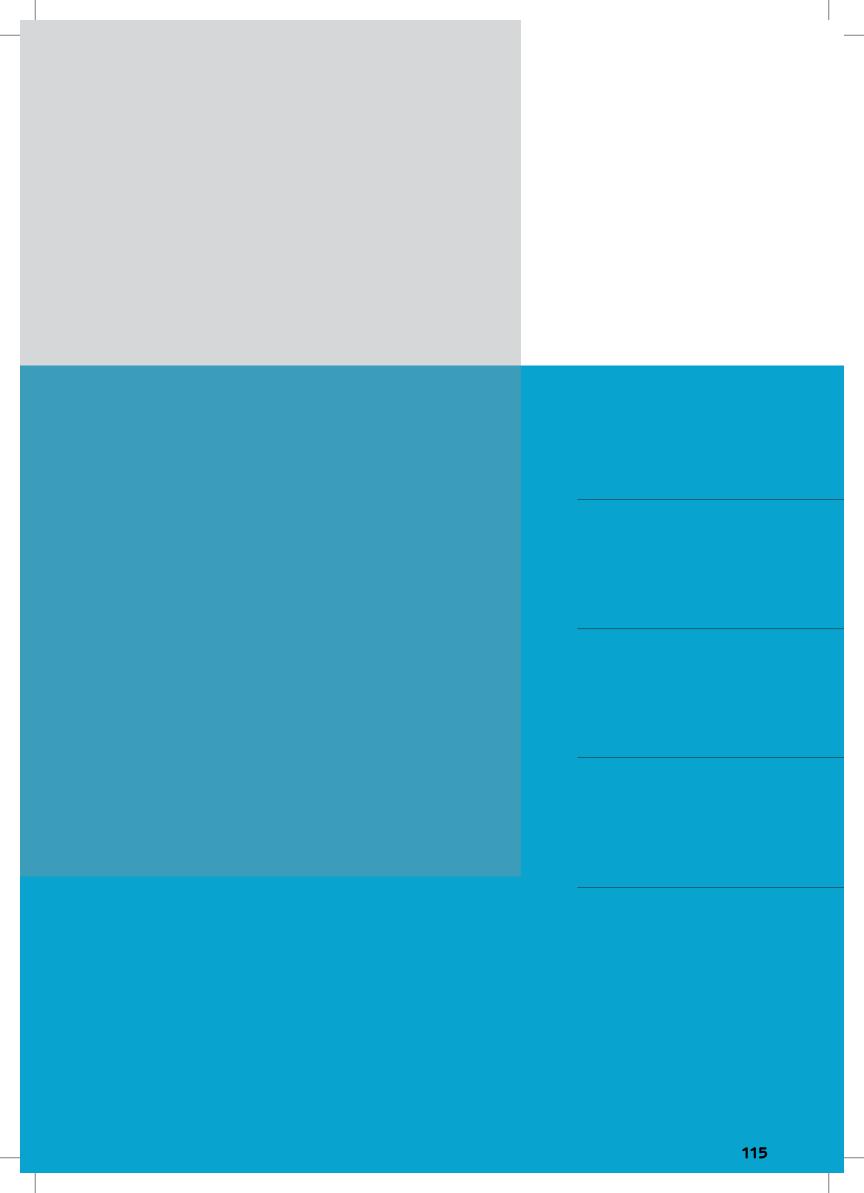


Flood/Heavy Rain



Tsunami



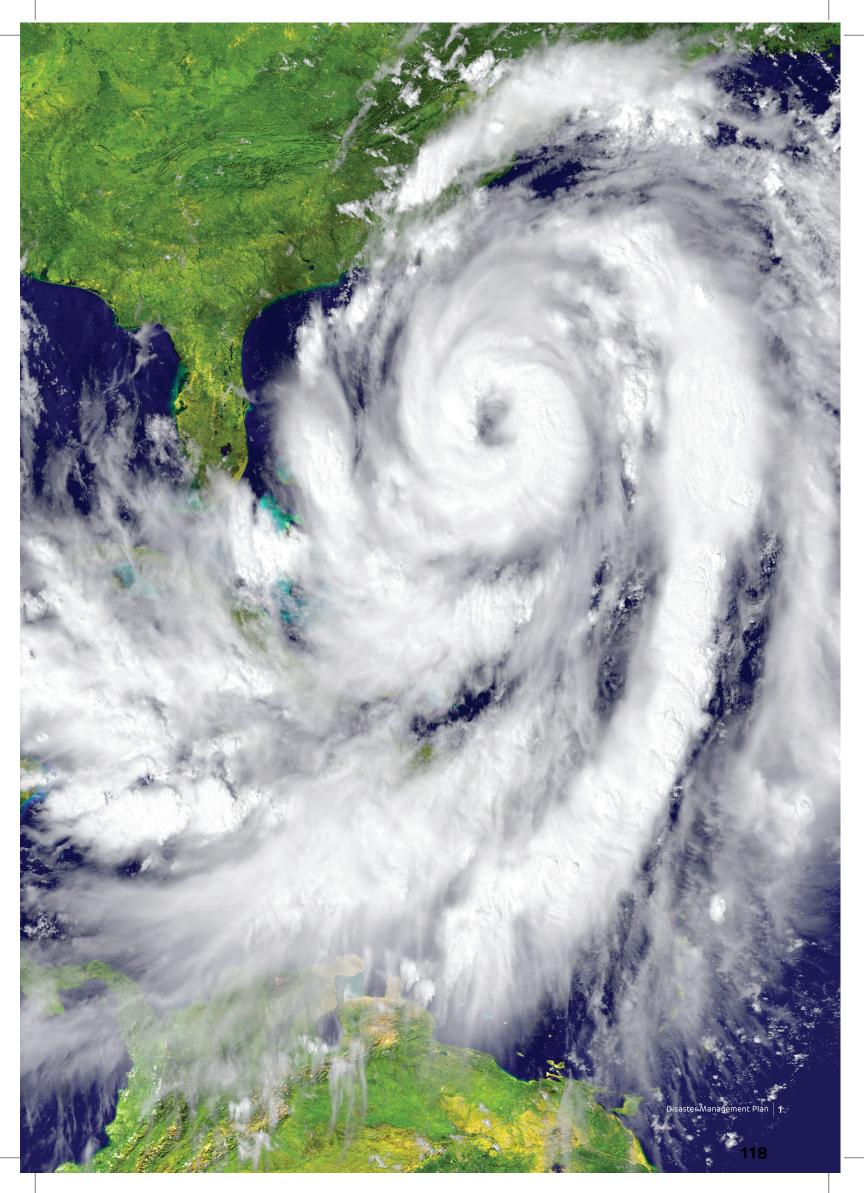


# Contents O1 Cyclone 64 Earthquake 86 Flood/Heavy Rain Tsunami

Disaster Management Plan for

# Cyclone

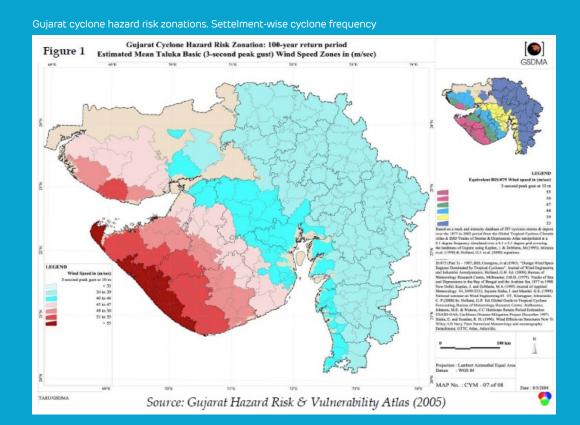




# Cyclone

# **Important Information**

- Regular power supply may be cut off for a considerable time (days) if the cyclone is severe, due to the failure of transmission lines.
- Both road and railway connectivity may be cut off for some time.
- Local villagers may try to forcibly enter port and local administration/police may be unable to help the port authorities.
- There may be unpredicted inundation from an unforeseen direction.
- All preparations to face such eventualities must be taken. Drinking water and adequate stock of essentials, for sustenance of the colony and nearby villages, have to be planned in advance.
- Adequate stock of essential medicines should be maintained.
- Cyclone alarm and response classification of tropical disturbances over the Indian seas. The cyclone currents rotate in clockwise direction in Indian subcontinent.
- If any other incident (i.e. fire, toxic release, oil spillage) occurs because of natural calamities, actions mentioned in the onsite emergency plan & oil spill contingency plan need to be taken.



Classification of tropical disturbances	Speed (Kmph)	Speed (knots)
Low	< 31	< 17
Depression	31 – 51	17 – 27
Deep Depression	52 - 62	28 – 33
Cyclone	63 – 87	34 – 47
Severe Cyclone	88 – 117	48 – 63
Very Severe Cyclone	118 – 221	64 – 119
Super Cyclone	> 222	> 120

# Useful web sites for tracking cyclones

- www.imd.ernrt.in
- www.supertyphoon.com/Indian.html
- www.npmoc.navy.mil/products
- www.solar.ifa.hawaii.edu/tropical/tropical.html
- www.underground.com/tropical

# Generally port installations are designed, based on the following criteria

- To withstand maximum cyclonic wind speed of 55 mtrs/sec as per IS875 (Part III).
- Restricted operating wind speed of 26 mtrs/sec so that equipment can be moved to the parking position.
- Safe operating wind speed up to 20mtrs/sec

# Action plan

- A. Actions Pre-cyclone preparations till 24 hrs strike.
- B. Actions 24 hours strikes to landfall.
- C. Actions During cyclone till Dissipating.
- D. Actions Post cyclone stage: recovery, insurance, restoration & relief.
- E. Checklists to be used at different stage of cyclone.

# Pre-cyclone Preparations till 24 hrs strike

This activity starts on intimation of possible cyclone hitting the Port (Normally before 3 to 4 days, and at least 48 hrs before the predicted cycle).

# Marine Control (Signal Station)

- Prime duty of signal station is to collect the weather data, give warning to all by hoisting warning signals and control all marine activities.
- · Marine Head of the Port is the controlling authority of Signal Station, who is assisted by 2 DGM Marine Operations.
- Marine Control is the eyes and ears of the port.
- · Marine Control station is the Permanent Nodal Agency to gather information about low pressure formation, cyclone formation, and all details of cyclone. Marine control shall pass on all such information to the CEO and all HODs.
- The port's radar system is installed on top of the Marine Operation Building (MPT & WB) station; Vessel Traffic Management System (VTMS) is with the marine control.
- The information is to be collected from Indian Meteorological department, local radar system/Local TV networks news/Radio and Web-site.
- · All information related to low pressure formation and cyclone shall be immediately sent to CEO and all HODs by mail, SMS, followed by telephone to ensure that they have received the message. In case any recipient is out of headquarters, the information shall be passed on to the HOS.
- The Marine Control Station shall maintain the contact details of CEO, all HODs and, HOSs, in addition to all installations (HR department shall supply contact details of all concerned and the list is to be kept updated every 3 months).
- On confirmation of cyclone, Marine Head shall make arrangements for food, water and all facilities necessary for the smooth functioning of the marine control, as proposed by Cyclone Management Centre.

## Cyclone Management Centre:

- On receipt of information of approaching cyclone a Crisis Management Centre (CMC) at Adani house, First floor, Conference room shall be started at least 48hrs prior to the approach of cyclone.
- CMC formation shall be ordered by the CEO or the Executive Director (Corp. Affairs).
- First and Second floor of a permanent building is the ideal choice and hence the first floor of Adani House has been chosen for setting up of the CMC.
- CEO or the Executive Director (Corp. Affairs) shall be overall-in-charge of the CMC and shall take all necessary steps for proper functioning of the control room.
- All information shall be passed over to CMC by the Marine Control, when CMC starts functioning.
- · All coordination and control shall be done by the CEO from the CMC.
- The CMC shall have stand-by power supply (Diesel powered Generator) which can last at least 48 hrs, in case of power failure. A diesel bowser shall be kept stand-by at a sheltered location near Adani House to supplement the existing 1800 ltrs of fuel which is available for the 320 KV Generator. The CMC shall be easily accessible and well connected through at least 3 modes of communication (telephone, walkie-talkie with charging facility and mobile phone) in addition to functional public address system.
- The communication system between marine control, CMC, CEO and HODs shall not fail at any cost.

# Control Room shall have the following facility

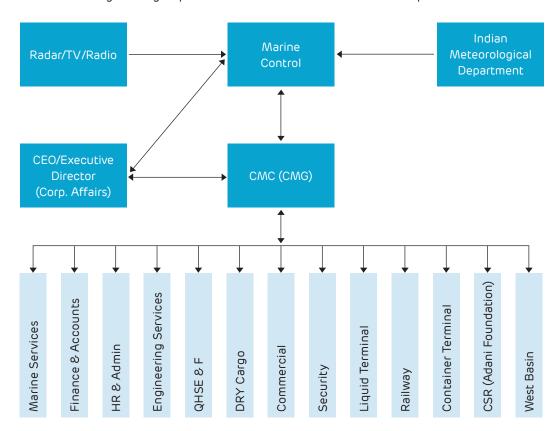
- Two numbers of laptop with internet link.
- · Communication systems as described above.
- UPS and stand-by generator with fully charged battery and diesel for 4 days continuous running.
- Toilet facility with at least 2x1000 liters capacity overhead water tank.
- Dry food items and bottled water for 3 people for 4 days.
- One vehicle and one stand-by vehicle with adequate fuel and drivers.
- Adequate chairs, tables and sofas.
- Marine Head shall also arrange food and water for persons working at Marine Control round the clock during cyclone through HR & Admin.

## Crisis Management Group:

- Crisis Management Group (CMG) will be a permanent body to deal with all crisis and it is formed by CEO.
- On confirmation of possible cyclone attack on the port, the Crisis Management Group (CMG) shall meet at the CMC or other convenient place as determined by the CEO.
- CEO Shall appoint departmental HOD/HOS as Coordinator and Convener of the CMG.
- All meetings of the Crisis Management Group (CMG) shall be conducted in the CMC.
- All HODs/HOS shall be members of CMG, in absence of CEO, Executive Director (Corp. Affairs) shall be the Chairman of CMG and Coordinator shall be the convener.
- CEO may declare emergency so that all staff and officers shall be at their duty stations and congregate at their designated stations for taking review of the situation and for implementing orders received from their respective HODs, who are CMG members.
- No officer shall leave his station during the emergency period.
- CMC shall be manned round the clock and shall be headed by CEO or someone nominated by CEO. He shall be at least of the rank of HOD.
- All advance preparations before the onset of cyclone, actions during cyclone and recovery shall be reviewed by CEO/Executive Director (Corp. Affairs) at CMC with the concerned CMG members.

# Crisis Management Group - Responsibilities

All HOD's and HOS's shall be members of crisis group for cyclone management and post restoration activities in addition to members nominated by CEO as per the situation. The crisis management group shall be active till the full restoration of port activities.



# Commands Structure/Designated Persons

- The following table shows the command structure for each department.
- In case the officer in the first column is not available, the second in command automatically takes over.
- Designation of the first column is the HOD and second column is the successor.
- In case of absence of both, the senior most officers of the dept. to assume charge.

Sr.No.	Head	Successor
1	CEO	Executive Director (Corporate Affairs)
2	HOD (Marine)	HOS (Marine)
3	HOD (Finance)	HOS (Finance)
4	HOD (HR & Admin)	HOS (HR & Admin)
5	HOD (ES)	HOS (ES)
6	HOD (QHSE & F)	HOS (QHSE & F)
7	HOD (Dry Cargo)	HOS (Dry Cargo)
8	HOD (Commercial)	HOS (Commercial)
9	HOD (Security)	HOS (Security)
10	HOD (Liquid)	HOS (Liquid)
11	HOD (Railway)	HOS (Railway)
12	HOD (Container Terminal)	HOS (Container Terminal)
13	HOD (West Basin)	HOS (West Basin)
14	HOD (CSR – Adani Foundation)	HOS (CSR – Adani Foundation)

<sup>\*</sup> Roles of HODs [West basin (ES & DC)] and HODs [MPT (ES &DC)] are same. HODs [West Basin] will assist to Head – West Basin.

## Duties and Responsibilities of CEO /Executive Director (Corp. Affairs) and HODs:

- On intimation of imminent cyclone, all HODs shall inform their subordinates to take all prescribed precautions as per the checklist and stand-by for further instruction.
- All HODs and officers shall have departmental walkie-talkie and mobile phones with them, with fully charged batteries.
- All HODs shall collect sufficient cash from the CFO, with the approval of CEO for contingency expenditure.
- All the members of the crisis group are required to inspect their area of responsibility to make sure all necessary precautions have been taken.
- In addition to the following, if there are any additional requirements, they shall be promptly attended to. Detailed duty and responsibility of the CEO and HODs are listed below.
- Group Position
- → Port Position
- Alternative
- → Site-Main Controller

**CEO** 

Executive Director (Corp. Affairs)

- Keep close contact with marine control, CMG/Head Marine and get latest update on the cyclone and its course.
- Call for emergency meeting of the CMG for appraisal.
- Instruct all HODs to be ready. Also instruct HODs to form groups of officers and communicate the duties and responsibilities of all subordinate officers for their readiness (a group formed).
- Monitor cyclone management action plan/check list.
- Declare and ensure state of emergency and preparedness is maintained all throughout, till recovery and restoration is complete.
- Finalize the program for shutting down operations and evacuation and other operations as deemed necessary.
- CEO shall coordinate with CMG.
- Liaison with District Collector, Indian navy, Coast Guard, SP, Local Admin.
- Instruct the SEZ corporate affairs/Adani foundation to inform local villages of the danger arising from the imminent approach of cyclone and advise them to move to safer areas and offer all possible assistance.
- Review the condition of stack yard, stock of cargo inside transit shed, and initiate cargo safety action plan with all HODs.
- Review safety of dangerous cargo if any on board the ship, shed or nearby.
- Plan for casting off ships with dangerous cargo and dispatch of dangerous cargo from the port by road on priority basis.
- Finalise roster for removal of ships to roads from the port with Head Marine and HODs, marine operations.
- Review drainage, evacuation of surge/tidal water with ES-Civil dept. and instruct civil department to complete all related work within 24 hrs.
- Review action plan for safety of port and port equipment with Marine, Dry Cargo, ES, railway and CT.
- Review the plan for emergency power supply and water supply with MUPL.
- Finalize with Admin/HR and HSE, the action plan for the safety of employees to colony including emergency evacuation in case of tidal waves.
- Instruct Admin/HR to coordinate all arrangements for food and water.
- Ask all HODs to be ready with resources to meet unpredicted emergencies like Sea water inundation, and wind speeds being more than predicted speeds etc.
- Issue order to declare HOD finance as the coordinating officer for insurance.
- Review the insurance position and renew policies if lapsed.
- Sanction cash for emergencies, to be maintained by HODs.
- Review the preventive arrangements made by HODs as per checklist.
- Keep the corporate head office informed of all incidents and activities.

# Crisis Management Group Responsibilities

- Group Position
- Port position
- Alternative
- Incident Controller

HOD - Marine

HOS - Marine

- Have close coordination and supervision of the marine control to be fully alert day and night to monitor the cyclone and get the latest information.
- Pass on the latest cyclone updates to CEO/Executive Director (Corp. Affairs) and all CMG members for advance planning.
- Take active part in the formation of CMG with the approval of CEO.
- · Take action to preserve all vital records and documents.
- · Co-ordinate with HSE and take their advice for health, safety and environmental issues particularly if ships with dangerous or toxic cargoes are present in
- Ensure that applicable implementation procedures are reviewed and are in position.
- · Inform master of the ships about the cyclone and ask

them to be prepared to move out on short notice.

- · Keep all the tugs and crafts on stand-by for emergency evacuation of ships to roads on
- Initiate emergency action plan for the safety of SPMs.
- Prepare a roster for evacuation of ships, in consultation with HOD of various SBUs.
- Arrange emergency kit for safety of personnel.
- Plan evacuation of all ships from the port on confirmation of the cyclone.
- Ship movements may not be feasible in the last 24 hrs period and wind may start increasing in advance. These aspects and tidal forecast may be taken into consideration in executing evacuation.
- Discuss and finalize with master of tugs and other officers necessary action to be taken for the protection and safety of tugs, port crafts and navigational aids, during cyclone after evacuation of ships.
- Keep all navigational survey equipment in good condition for use after passage of cyclone.
- · Control of shipping.
- · Obtain approval from CEO for taking all necessary action for the safety of the port and port crafts.
- · Considering the condition of the channel depth, marine head shall prepare a chart for evacuation of the ships from the port.
- Marine head shall apprise CEO of all actions being undertaken.
- ullet Even with all preplanning also, there may be occasioning that one or two ship remains in the port during cyclone. Action plan for such situation to be planned in advance.
- Additional movable fenders to be inserted between ship and berth and increasing the nos of mooring ropes etc are to be planned.
- Keep enough wire ropes ready for use in case of emergency.
- Coordinate for proper functioning Of CMC.
- · Prepare duty roster for manning of Crisis Management Centre by officers of the Administration, Finance & Accounts and Commercial.
- · Keep track of the cyclone and take all necessary action for cargo management with the help of various SBU's Head.
- Visit the port and coordinate with various SBU's Head to ensure safety of cargo stacked in stack yard and cargo stored in covered areas.
- Management of Hazardous waste may be done with the guidance of HOD, QHSE & F.
- Action plan to move Hazardous cargo to safe place to be finalized.
- Liaison with all stake holders to relieve their anxiety if any.
- The roster of all departments may be collected, combined and kept in the CMC for ready reference.
- Mobilize and monitor vehicles as per the checklist.
- Coordinate with Coast Guard to patrol the seafront.

- · Liaison with Marine Police and ensure proper patrolling.
- During the course of cyclone Fishing Boats may try to berth on the vacant spaces and damage the berth or sink there.
- Plan in advance to prevent such incidents.
- Arranges food and water to the personnel on roster duty with the help of HOD Admin.
- Liaise with local administration and communicate inputs from and to the SEZ Corporate affairs/Adani foundation.
- Advance planning to keep audio/video records of all events.
- Ensure proper storage of valuable documents and equipment.
- News of weather forecast to be circulated frequently to the industries/units inside SEZ and surrounding areas.
  - Group Position
  - Port Position
  - Alternative
- Secondary Support Team

Head F & A

HOSF&A

- Maintain cash/funds for disbursement to all dept. as per requirement.
- Take over the function as nodal officer for all insurance related activity.
- · Keep all valuable records and data in safe custody.
- Provide Disbursement Statement for processing claims.
- Depute officer to each dept. to assess the requirement and needs of affected dept.
- Assist in procurement and process purchasing/ leasing of equipment.
- Prepare to help Admin/HR for hiring of special services for food, shelter and transport as the situation demands.
- · Prepare to document all events, damages and claims.

- Position
- Port position
- Alternative
- Primary support team

HOD HR & Admin

HOS HR & Admin

- Keep in touch with CMC/CMG, perform coordination with concurrence of CEO.
- Attend CMG meetings, as directed by CEO/Executive Director (Corp. Affairs).
- Have enough staff and vehicles ready to attend emergencies.
- Supply contact details of all officers and staff to Marine control and CMC.
- Discuss and finalize with HOD QHSE & F, the action plan for the safety and shelter of all officers, staff and people residing in the staff colony.
- HR department shall supply contact details of all concerned list is to be kept updated every 3 months
- Collect the duty roster of all dept. and their posting position to finalize arrangements for provisions, water and other essential for 4 to 5 days,
- · Finalize arrangements for safety of colony in

consultation with HOD Admin.

- Advise colony occupants to store drinking water, cooking materials, cooking gas, candles etc. to meet emergencies.
- Ask the canteens to store adequate raw materials, gas etc for at least a week.
- Coordinate evacuation with transport and HOD Admin in township areas if situation so warranted with the clearance from CMC.
- Finalize in coordination with HOD Admin & HOD Security, the plan to ensure safety of Port properties and Colony.
- Coordinate with HSE and Medical officers for attending to emergencies.
- Coordinate with other field group (DC, Marine, ES, Container, CT, Liquid, Railway, Security, and QHSE&F) for food and drinking water for the persons engaged in cyclone duty and restoration work.

- May need additional help of HOD Commercial for procurement of large quantities of materials.
- · Arrange emergency kit for safety of personnel.
- · Make a list of staff that can be evacuated from all departments (DC, Marine, ES, Container, CT, Liquid, and Railway).
  - Position
  - Port Position
- Alternative
- Incident Controller

HOD - ES (MPT & WB)

HOS - ES (MPT & WB)

- · Stay updated about the course of cyclone.
- Make detailed inspection of all facilities and plan for preventive actions in case of cyclone attack.
- Make responsibility chart for safe parking of all equipment and communicate the implementation system to field groups for on-site action.
- · Plan for checking the condition of all stand-by equipment like DG sets, Diesel engine driven welding sets, De-watering pumps etc.
- Plan and advice the procedure for parking and anchoring of all equipment to the field group.
- Plan with HOD Commercial for the procurement of essential materials.
- · Keep all valuable data and records in proper safe custody.
- Finalize a team of engineers and staff for round the clock emergency duty.
- · Plan for adequate dry food and water, with the

assistance of HOD Admin for the people who may be required to be on emergency duty.

- · Plan for emergency de-watering units, emergency lights etc.
- · Draw available resource pool and keep a list of qualified contractors with contact number. Keep at least one team on stand-by for emergency power transmission line repairs and reconditioning.
- · Call the officers and personally apprise them the action to be taken in the next 24 hrs (24 hrs pre cyclone).
- · The last pre-cyclone period may be curtailed due to unexpected sudden increase of wind speed.
- Arrange emergency kit for safety of personnel.
- The action team should be apprised of such a situation taking place in advance.
- Cargo operation may have to be stopped early for moving equipment to safety and taking out Ships.
- · Though the port operation shall continue till the time the wind speed permits, all preparatory arrange must be in place to complete all planned safety work before the wind speed reaches the threshold limit.
- Plan for parking all non-working equipment prior to the last 24hrs.
- · Attend the CMG meeting and apprise CEO/Executive Director (Corp. Affairs) the action plan to be taken to prevent damage to the port equipment and installation in case the cyclone hit the port.
- · Arrange sand-bags and heavy weights to prevent light materials from flying and to create a barrier to reduce the impact.

# Instruction to be given to the designated groups for anchoring the equipment

- · Stop operations in consultation with HOD Dry Cargo & Container Terminal when the wind speed increases.
- · The loading and unloading booms of ship loader, ship unloader and container cranes, HMCs shall be lifted and latched.
- If latching is not functioning, repair it or tie with wire ropes for additional protection.
- · Ship loader and ship unloader, HMC etc shall be travelled to the designated parking position lower the anchoring pins into hole and lock.
- · In case of hydraulic locking, lower the locking jaws and lock it with rails.
- Park and secure the boom of all stacker & reclaimers at the designated place.
- In addition, block all the wheels of all rail-mounted equipment mechanically.
- · Lock all control rooms and operators cabins.
- Switch-off power supply to equipment, after they are parked and secured.
- Check all MCCs and tunnels and ensure there is no possibility of surface water entry inside.

- · Inspect all roads, culverts, drainage system and water supply system.
- Take action to rectify defects on war footings to complete within 24/30 hrs.
- Inspect all buildings, roof of temporary buildings, and top of conveyor galleries.
- · Take action for repair and strengthening.
- Inspects the seashore of the port and take action for protection if warranted.
- · Plan action group to attend to emergencies, co-ordinate with MUPL for maintaining water supply.
- Check all buildings, conveyor gallery and roofs tops and strengthen them to withstand the cyclonic wind.
- Coordinate with HOD Commercial to procure and store enough sand/cement and other construction material to tackle emergency.
- An experienced engineer may be attached with commercial to help in arranging civil construction materials.
- Take all necessary precautions to seal entry of surface water inside wagon tippler tunnel and MCCs and control rooms.
- Plan for a group of officers and staff for stand-by duty during cyclone.
- Plan to keep adequate diesel to operate the de-watering pumps.
  - Position
  - → Port Position
- Alternative
- Primary Support Team

HOD - QHSE & F

HOS – QHSE & F

- · Assist CEO as instructed.
- Co-ordinate with respective HOD/HOS with respect to emergency actions.
- HOS of all sections of QHSE&F will assist HOD – QHSE&F.
- Assist in evacuation of all personnel except key personnel.
- Provide HSE& Ffacilities (Assist for rescue, evacuation, and other necessary arrangements).
- Ensure availability of emergency kit (torch, PPEs, rope, first-aid, whistle, VHF sets, PA system, fire extinguisher etc)
- All Emergency vehicles are to be ready to operate, completely filled with fuel, and stand-by drivers.
- Liaison with mutual-aid partners for assistance.
- Arrange necessary staff of fire, medical & rescue with necessary arrangements.
- · Assess high risk areas areas where there could be chance of major environmental pollution.
- · Arrange emergency kit for safety of personnel.
- · Remove/Securing of Hazardous and toxic cargo.
- Providing necessary arrangements to prevent pollution and to protect the environment.
- Suggest optimal strategies to conduct emergency isolation of damaged equipment, emergency transfer of materials etc.
- Render assistance for trapped personnel.
- · Recommend the appropriate procedures to isolate damaged units without introducing new hazards.
- Coordinate as per plan for all preparations to meet the emergencies.
- · Set up casualty collection centre and arrange first aid posts.
- Arrange enough stock of medicines, antidotes, oxygen, stretchers etc.
- Keeping in mind that Road and Rail connectivity may be cut off for required period of time.
- Maintains a list of blood groups of each employee with special reference to rare blood groups.
- · Arranges additional medicine and equipment as required.
- Ensure fully equipped Ambulance in ready state.
- Ensures that the casualty section of Port hospital has specialists round the clock during cyclone.
- Arranges for extra beds and in emergency contact with the Adani Hospital and Bhuj Hospital for extra medical supplies.
- Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment.
- Duty Doctor to be onsite with team who acts as liaison officer for all medical services.
- · Advise regular medicine takers to keep adequate stock of medicine with them like BP patients,

diabetics etc through e-mail communication.

- Immediate disposal of hazardous waste and biomedical waste to disposal facility.
- Plan for securing ambient air quality monitoring instruments throughout the area.
- Co-ordinate with engineering services for securing the stakes.
  - Position
  - Port Position
- Alternative
- Incident Controller

**HOD-Dry Cargo** (MPT & WB)

**HOS-Dry Cargo** (MPT & WB)

- · As soon as getting the information about cyclone, personally visit all stack yards, plots and other cargo storage area, including transit shed if any and inspect the condition of stacking.
- · Inspect all drainages and if found blocked inform civil engineering to immediately clear the drainages to ensure free follow of flood water.
- Confirm that hazardous and toxic cargoes are properly protected to prevent environmental issues.
- · Take action to evacuate all perishable cargo, and ask the owner to arrange for evacuation as quickly as possible.
- Arrange emergency kit for safety of personnel.
- Take action to identify all expensive materials and take action to protect them to prevent losses durina cyclone.
- Arrange to segregate and protect cargo in sheds.
- · Co-ordinate with HOD Marine in de-berthing vessel to vacate the berth.
- Discuss with DC team and HOD Marine and operations may have to be stopped early, so that they get time to move out all ships.
- · Take all possible action in coordination with CMC and owners of cargo to ensure no or minimum loss of cargo during cyclone and possible tidal inundation.
- Have a final inspection of cargo before the onset of heavy wind.
- Liaison with HOD Security for safety of cargo.
- Preserve all records in safe place to save it from cyclone and possible inundation.
- · All cargo handling equipment like, pay loaders, front end loaders, bull dozers, dumpers, trailers, cranes, forklifts etc. shall be kept ready with adequate fuel to use them on emergency, during cyclone and later during restoration. These equipment are to be parked in safe, protected area.
- · Arrangement schedule of enough operators/workmen to operate equipment during cyclone in emergencies and for restoration.
- Mobilization of additional manpower and cargo handling equipment from the port, Stevedores and C & F agents to meet emergencies and later to segregate unaffected cargo and make arrangements to protect cargo, till evacuation.
- Officer of Dry Cargo will coordinate with Security about the local road network in case of road blockage, to clear the blockage in coordination with state government and local administration, through Corporate Affairs.
- · Corporate Affairs will also explore alternative mode of connectivity, so that some form of connectivity with the main stream is immediately established.

- Position
- → Port Position
- Alternative
- Secondary Support
  Team

HOD - Commercial

**HOS - Commercial** 

- Collect details of all materials in store and plan for procurement of adequate stock of consumables and construction materials.
- Discuss with all HODs about their possible requirements.
- Make physical verification of the stores for proper stocking to prevent damage during cyclone.
- Co-ordinate with ES-civil for repair of stores if found wanting.
- During cyclonic season sufficient stock of consumables like tarpaulins, gunny bags, ropes and wires for port crafts, diesel oil, kerosene oil, hurricane lantern, candles, petromax lamps, torch lights with batteries and bulbs, electrical items, sand-bags, cement etc are kept in stock.
- Stock adequate roofing materials and fixtures, for emergencies.
- · Few sealed packets of bleaching powder shall be available in stores for sanitation.
- Few gas cutting sets may be kept in stores for emergency. The quantity may be decided in consultation with ES.
- All the materials which are likely to get damaged by water-inundation shall be protected by a tarpaulin cover and kept above ground level.
- All electrical and electronic items shall be shifted to safe place fully wrapped.
- Stores which needs to be kept in controlled temperature, like belt splicing materials etc. are to be moved to places where DG sets are available, or arrange one DG set for emergency supply.
- Spares shall be sealed in polyethylene covers and kept to save it from cyclone damage.
- Electrical items should be kept in high raised rake to prevent water contamination.
- · Cut edge of conveyor belts should be either covered or a coat of rubber solution shall be applied.
- Arrange to keep stand-by staff round the clock to issue these materials any time during the emergency and restoration period.
- · All valuable records and computers shall be properly stored to save them.
- Inform HOD-Finance of approximate funds required.
- · Selling of recyclable hazardous waste must be prioritized.
  - Position
  - → Port Position
- Alternative
- Primary support team

**HOD** - Security

**HOS** -Security

- Plan for effective traffic control and its regulation in port area during and after cyclone.
- Coordinate with QHSE&F for fire and safety issues.
- Inspect the circumference of the port and in case of damages to compound wall get them repaired with the help of HOS civil Engg, immediately.
- Close all possible vulnerable points.
- Clear all internal roads within port area for smooth traffic.
- Plan for posting extra watch and security guard team for intensifying patrolling of stores, substations, berths, transit sheds, warehouses, administrative building, loco sheds, workshops, water supply installations etc. in addition to all entry and exit points.
- Arrange emergency kit for safety of personnel.
- Issue orders to all gates to effectively control the entry of unauthorized persons or vehicles inside the protected area.
- Plan to intensify the patrolling of periphery and inside the port, including the berth area.
- Liaison with police and local aid agencies after informing the CEO.
- During the Pre-cyclone, Cyclone and recovery period no visitor shall be permitted inside the protected area.
- In case of authorized visitors, they shall be apprised of the cyclone and its effect. They may be
  escorted to safe place. Liaison with Admin for their accommodation and transport

- Position
- Port Position
- Alternative
- Incident Controller

HOD - Liquid

HOS - Liquid

- Coordinate with Marine Control and CMG.
- Inform the masters of the ship regarding the progress of cyclone, and ask them to be prepared to move out on short notice
- Discuss with Marine HOD and finalize the ship movement program in advance.
- Keep all officers and staff ready for emergency action on intimation of cyclone (Notice of 24 hrs or less only may be given for evacuation)
- Plan for a well-prepared emergency group to stand-by during cyclone to meet unpredicted emergencies.
- · As soon as getting the information about cyclone, personally visit all the areas of Liquid Terminal.
- Make necessary arrangement for shifting of critical cargo.
- Inspect all drainages and if found blocked inform Admin/Civil to immediately clear the drainages to ensure free follow of drained water.
- · Confirm that hazardous and toxic cargoes are properly protected to prevent environmental issues.
- · Take action to evacuate all perishable cargo, and ask the owner to arrange for evacuation as quickly as possible.
- · Co-ordinate with HOD Marine in de-berthing vessel to vacate the berth.
- · Discuss with HOD Marine to stop operations early, so that they have time to move out all ships.
- · Take all possible action in coordination with CMC and owners of cargo to ensure that there is no or minimum loss of cargo during the cyclone and possible tidal inundation.
- · Arrange emergency kit for safety of personnel.
- Have a final inspection of cargo before the onset of heavy wind.
- · Liaison with HOD Security for safety of cargo.
- Protect all records in safe place to save it from cyclone and possible inundation.
- · All tankers and other equipment shall be kept ready with adequate fuel to use them in case of emergency, during cyclone and later during restoration. This equipment must be parked in a safe, protected area.
- Schedule enough staff to operate equipment during cyclone, in emergencies and for restoration.
- Inform QHSE&F about disposal of hazardous waste.
- Remove all loose material from the open areas and secure at proper place.
  - Position
  - Port position
- Alternative
- Incident Controller

**HOD** – Railway

HOS - Railway

- · Maintain co-ordination with marine control regarding the status of the cyclone.
- · Ensure that wagons and locomotives are parked in a safe area in case the wind speed increases
- Arrange an emergency kit for the safety of personnel.
- · Liaison with Indian railway authority.
- · Co-ordinate with Operations department for wagon loading.
- · Railway team to stay in continuous contact with other emergency services (such as QHSE & F, Security, other services).
- Inspect the railway track, loco, signals and other assets belonging to Railway.
- · As soon as information about the cyclone is received, personally visit the concern areas.
- Inspect all drainage/culverts and if found blocked inform civil engineering to immediately clear the drainages to ensure free follow of water.

- · Confirm that oil/grease containers are secured.
- · Arrange emergency kit for safety of personnel.
- · Liaison with HOD Security for safety of cargo.
- · Preserve all records in safe place to save them from cyclone and possible inundation.
- Arrange enough operators/workmen to operate equipment during cyclone in case of emergencies and for restoration.
  - → Position
  - → Port Position
  - Alternative
  - Incident Controller

HOD - CT

HOS - CT

- Maintain contact with Marine control for the status of the cyclone.
- Cointainers must be stacked in threes only (as per possibility)
- All hand held UHF/batteries, emergency torch, mobile phones must be fully charged for use in emergency in case of total power failure.
- Should be ready to stop activity in case increases of wind speed.
- As soon as getting the information about cyclone, personally visit wharf and back-up area.
- · Ensure condition of storm lock-pin.
- Confirm that hazardous and toxic cargoes are properly protected to prevent environmental issues.
- Take action to evacuate all perishable cargo, and ask the owner to arrange for evacuation as quickly as possible.
- · Arrange emergency kit for safety of personnel.
- Co-ordinate with HOD Marine in de-berthing vessel to vacate the berth.
- · Discuss with HOD Marine to stop operations early, so that they get time to move out all ships.
- Take all possible action in coordination with CMC and owners of cargo to ensure no or minimum loss of cargo during cyclone and possible tidal inundation.
- Have a final inspection of cargo before the onset of heavy wind.
- · Liaison with HOD Security for safety of cargo.
- Preserve all records in safe place to save them from the cyclone and possible inundation.
- Arrange fuel for equipment and cranes for emergency.
- All cargo handling equipment ITVs, cranes, forklifts etc. shall be arranged to use them on emergency and later during restoration. This equipment is to be parked in a safe, protected area.
- Arrange enough operators/workmen to operate equipment during cyclone in case of emergencies and for restoration.
- Mobilization of additional manpower and cargo handling equipment from port, stevedores and C & F agents to meet emergencies and later to segregate unaffected cargo and make arrangements to protect cargo, till evacuation.

# B 24 Hours strikes to landfall

- Position
- → Port position
- Alternative
- → Site-main Controller

**CEO** 

Executive Director (Corp. Affairs)

- Ensure from HODs that all precautionary measures are completed in advance and obtain written feedback.
- To ensure that all documents and records are kept in safe places by HODs.
- Hold review meeting of the CMG at regular interval, minimum 3 times daily till full recovery and resumption of port operations.
- Have frequent overall physical verification inside the port area.
- Advise all members of CMG to be present at CMC or at temporary Emergency Control Room during cyclone.
- Authorize release of required funds.
- Appraise corporate office of the situation and action taken.
- Coordinate with District collector, Tahasildar, Indian Navy, Coast guard and Marine Police for advance precautionary actions.

- · Take all necessary steps to help local authorities for evacuation and sheltering the people of nearby villages who may be affected.
- · Approve information to the media.
- In case of high tidal prediction, employees and families staying in the colony need to be relocated. Also instruct Admin to look in to the possibility of shifting people on the ground floor to first floor
- · Instruct Admin/HR department to arrange enough grocery items, dry food and drinking water for emergency requirements.
- · Provide timely status reports to the authorities.
- Take active role for corporate social responsibility along with Adani Foundation.
  - Group Position
- Port Position
- Alternative
- Incident Controller

HOD - Marine

HOS - Marine

### Directs and Co-ordinates all Field Operations/ Precautions:

- Keep track of the course of cyclone and inform all pilots and staff and officers about the latest position. Keep inform all HODs.
- On information from Marine Control about increasing wind speed, ask HOD of Dry Cargo, Container Terminal and Liquid Terminal to stop all loading, unloading of cargoes, discharging and bunkering operations.
- Discuss with CEO, HOD Dry Cargo, Container, Liquid and Pilot to start evacuation of the ship to the roads as per the roster finalized earlier.
- · Ship on oil/liquid berth is to be given priority for evacuation.
- Coordinate with HSE to ensure ship with hazardous and toxic cargo are taken out first.
- · Evacuation shall be completed before the wind speed reaches threshold value.
- · To ensure this, evacuation may have to be started earlier.
- · Preserve all records and documents safely.
- · Keep all the necessary officers and staff stand-by for emergency duty.
- · In coordination with HOD Security, ensure evacuation of all dock workers and private labour, visitors, shippers, consignees from the port area.
- Ensures implementation of the disaster response plan and coordinating with the Fire Fighting Authorities. .
- · After evacuation of all ships, arranges to protect Tugs and Port crafts by proper docking and tie up to withstand simultaneous cyclone wind and destructive tides.
- Deploy craft- and mobilize resources to confine and clean up spill if any.
- Keep adequate provision of food and water for men on emergency duty.
- · Inform possible time of return to normalcy to all cargo interests, shipping agents, stevedores.
- If due to any reason a ship could not be taken out, this ship needs to be protected well against breakage of mooring ropes and possible drifting and banging on to the berth.
- Several restraints, as situation demands, with bollards needs to be done.
- A team of staff along with DC/Pilot needs to be on stand-by duty for the period of cyclone to take spot decisions.
- · Enough good quality ropes, shackles and other required materials, shall be supplied to the group.
- This matter shall be brought to the notice of the CEO and Corporate Head.

## SPM Preparedness for Cyclone

- Flush both floating and subsea hose strings with seawater.
- Disconnect both floating hose strings from SPM buoy, shift and secure at safe location.
- · Blind both j-piping arm flanges.
- Disconnect both mooring hawser assemblies and transfer to a safe location or on board of Diving support vessel.
- Secure:
  - > All loose and portable equipment & spares from SPM buoy.
  - > Hatches doors and replace seals if needed.
  - > All doors and latches for tightness.
  - > Locked close position of all deck & central chamber valves.
  - > Ensure that all hazardous and toxic cargo is identified.
- Co-Ordinator
- Marine Control (Shift Incharge)
- The coordinator shall work as the convener of CMG.
- The duty of the coordinator is to coordinate with all CMG members and help to implement all decisions.
- All officers on duty must have walkie-talkie and mobile phone with them with fully charged batteries.
- Keep few extra walkie-talkies ready at CMC for emergency work.
- Keep a record of walkie-talkies to prevent loss.
- He shall work as a convener of the CMG and shall report directly to CEO.
- · He shall help all CMG members for the pre-cyclone arrangements and post cyclone re-commissioning.
- The extra man power required for all departments shall be arranged by him, by lateral shifting or by hiring for specific purpose and period.
- Circulate cyclone bulletins to all external customers at every 12 Hrs.
- A salvage team with a salvage vehicle shall be maintained at the Marine control under the control of the senior pilot, who shall be on duty during cyclone.
- This salvage team is to be used for attending to emergencies during cyclone.
- For manning the same, staffs have to be provided in coordination with HOD Marine & ES.
- This vehicle shall be able to move around in port area and shall be provided with, a DG set, portable welding machine, gas cutting sets, wire ropes, shackles, first aid box, emergency light, necessary tools and tackles etc.
- Liaise with Site Incident controller (HOD Marine) and is responsible for keeping the Fire and rescue Dept. in a state of alertness on a 24 hour.
- Keeps CMG, HOD Marine, HSE and HOD Security informed of any crisis & lead team directly to incident site.
- Initiates firefighting procedures immediately and ensures firefighting team reaches the incident location with the correct resources.
- The fire team also shall work as rescue /evacuation and other emergencies.
- Assist in the evacuation of workers to the assembly points in liaison with HR. Plan with assistance of HSE, for adequate men to stand-by duty in emergencies.
- Arrange safety equipment e.g. fire suits, protective gloves and goggles, breathing apparatus as required.
- The emergency set should be so arranged that it can start functioning immediately on reaching the emergency point (D/G set is ready with POL and battery, emergency light sets ready, gas cutting set is connected and ready, welding set ready, enough welding rods are available.)
- $\bullet\,$  Men on duty should contain at least, one welder, an electrician, riggers etc.
- · Coordinate with Medical department for maintaining mobile first aid centre.

- Support Staff
- Senior Pilot
- Pilot

- Senior Pilot to be stationed at Marine Control.
- · Assist Pilots to take out ships on to the roads.
- · Assist Pilots to secure port craft properly, taking into consideration of severity of the cyclone.
- · Maintains 24 hour vigilance towards the channel / anchorage & port
- On receipt of any incidence inform CEO/HOD Marine refrains from exchanging any information with unauthorized persons unless authorized to do so by the CEO.
- Maintains contact with vessels on VHF.
- · A salvage vehicle with tools and tackles, a portable welding set, portable DG sets, gas cutting set, ropes of different size, portable lights should be maintained at the Disposal of the Marine control station under the senior Pilot.
- To man the same, persons from different department shall be arranged by the Coordinator.
- Group Position
- Port Position
- Alternative
- Incident Controller

**HOD-Dry Cargo** (MPT & WB)

**HOS-Dry Cargo** (MPT & WB)

- All normal operations to be stopped. Only emergency operations (securing of MHC/goliath/LMC/equipment/ hoppers/dumpers/trailers) to be continued.
- · Ensure that cranes are parked at safe locations with lowered and secured booms.
- · All mobile truck-loading hoppers at jetty are arrested at their wheels to prevent horizontal movement due to wind and secured from above by arranging guy ropes.
- · All equipment (pay loaders/excavators etc) to be parked at OSY 10 or nominated OSY with full fuel.
- All dumpers/trailers to be parked at OSY 5/nominated place with full fuel.
- · All godown gates to be closed.
- · Keep emergency kit ready.
- · Communication mediums like VHF, mobile phones and PA systems checked and tested.
- As soon as the wind speed approaches 20mtrs/sec, issue instruction to stop all operation and move the equipment to parking position.
- Only emergency team members to remain in the port.
- 2 Pilot Vehicles stand-by near Tug berth building and FCC control room.
- Following team of operators remains at stand-by (at Tug Berth building) for emergency action.
  - > Crane operators- 3 Nos
  - > Loader operators 6 Nos
  - > Excavator operators 4 Nos.
  - > Forklift operators- 2 Nos.
- Emergency team in continuous contact with other emergency services (such as QHSE & F, security, other services)
- · All costly and critical materials are secured properly to avoid loss due to wind or water inundation.

- Group Position
- Port Position
- Alternative
- → Primary Support Team

**HOD** - Security

**HOS - Security** 

- Maintain adequate personnel to man all exit and entry points and to make regular surveillance survey of the port, periphery and vulnerable points.
- · Ensure sufficient security.
- Maintain patrols and ensure unsafe practices are eliminated.
- Liaise with Site Incident Controller (HOD Marine).
- Keeps CMG, HOD Marine, HSE and HOD Security informed of any crisis & lead team directly to incident site.
- · Control the entry of unauthorized persons and vehicles.
- Permit the entry of authorized personnel and outside agencies for rescues operations without delay.
- Allows the entry of emergency vehicles such as ambulances without hindrances.
- Ensure that all people are aware of the assembly points, where the transportation vehicles are available.
- Match the headcount with the list available at the assembly point section of that area.
- Help Admin/HR with evacuation as and when asked for.
- Carry out reconnaissance of evacuated area before declaring the same as evacuated and report to HOD Security/CMG.
- · Keep adequate fuel and vehicles for emergency duty.
- Disperses crowd and cordons off restricted areas to prevent looting.
- During heavy cyclone there may be instances of local villagers rushing inside the port area, HOD Security may be prepared to meet such emergencies.
- HOD Security and HOS Security shall frequently take rounds inside the port are to ensure that
  everything is in order and shall submit compliance to CMG.
- Position
- Port Position
- Alternative
- → Incident Controller

HOD - ES (MPT & WB)

HOS - ES (MPT & WB)

- Maintain roster of officers and staff for duty during cyclone and restoration period.
- As soon as the cyclone is confirmed to strike within 24 hrs start preventive preparations.
- Apprise the team the modus of operandi of parking and securing all equipment.
- Transport all non-operating equipment to the designated parking place, and lock all movements.
   Close the doors and windows of operators cabins and electrical control rooms.
- Form teams for safety and securing of all equipment and vital units.
- With coordination with all Department HODs like Dry Cargo, Container Terminal, Liquid Terminal and HSE etc. pull out equipment one by one from operation and move to safe, designated parking area.
- Instruct the leader of the team to be personally responsible and obtain feedback in writing, which may be submitted to CEO, after physical verification.
- Ship loader and ship unloader shall be parked at the designated area, lower the locking bar into the slot in the jetty.
- In case of hydraulically operated rail clamp, lower them to hold on to the rail, and block all wheels mechanically.
- Securing each equipment before submitting the clearance to higher ups.
- All equipment shall be stopped the moment wind approaches 20mtrs/sec, raise the booms and latch them, tie up if latch is not reliable.
- Move to and position at the respective earmarked parking position and lock.
- Loading boom of stacker reclaimers should be lowered and latched at the parking position.
- 135

- · Make necessary arrangements to secure roof sheets.
- · In case of any difficulty to travel to the parking position lower the boom to the travelling rail, any one side and tie down with the rail.
- · Block the travelling wheels and slew wheels mechanically.
- Additionally the rail mounted equipment may be tied to the rails by wire rope and clamps depending on the severity of the predicted cyclone.
- · Tie down all raised conveyor belt to prevent dismounting, especially belt on the tippers of stacker reclaimer, ship loaders and open conveyor belts at Berth.
- · Do not use wire rope to tie down conveyor belt, also ensure to use gunny bags or old belt pieces between the belt and rope to prevent damage to the belts.
- Power supply to all points to be shut off after parking the equipment.
- Ensure that all lighting towers are lowered to minimize damage to them during cyclone.
- There shall be 3 level of inspection after the parking of all equipment by the leader of the anchoring team, HOS-ES and HOD-ES.
- · Personally inspect all equipment (Ship unloaders, HMCs, ship loaders, Stacker Reclaimers, portliness, transistor etc. and satisfy the safety of the parking done.
- · Parking done should as per the guide line of the manufactures.
- The hoppers at the berth shall be locked with the rails to prevent movements at high wind speed.
- · Remove all locomotives to the loco shed and block all wheels.
- · Inspect the wagon tipplers/Tunnels and ensure the de-watering pumps are in working condition. The motors may be wrapped to ensure that water does not spoil the insulation in case of power failure and inundation. (Ensure to remove the wrappings before switching on)
- · Ensure that no surface water make entry into the MCC tunnels etc, in coordination with ES-Civil.
- · The indexers and Side arm chargers may be parked at the parking position and movements blocked. Arrange for switching off power supply to all equipments from the MCCs and Switch yard after they are parked.
- · All DG sets to be made functional with adequate stock of fuel for at least 4 days of operation.
- The DG sets should be installed on high pedestal to prevent it from getting submersed in water.
- DG in the guest house, water supply system, signal station and CMC also need to be maintained.
- · Provide all assistance to maintain power supply to colony and water pumping system. Keep adequate drinking water and dry food in the substation for all the staff on emergency duty.
- All important Sub stations have to be manned during cyclone.
- Monitors the rendering of assistance for rescue of personnel.
- · Ensures the dept. group remains alert on duty for electrical isolation of equipment during an emergency.
- Render all assistance for upkeep and restoration of water supply system.
- Lead the group from the front to ensure prevention of damages.
- · Inspect the workshops and ensure the equipment are covered properly to save them from severe wind and water. (Temporary roof may be blown off, hence costly equipment may be wrapped with tarpaulin.
- · Personally inspect all ES auxiliary equipment.
- Render help to others who request for help, such as Civil and Railways.
- Ensure that all doors of transfer towers are closed and tied to prevent opening due to the gushing wind.
- On intimation of imminent cyclone have a second inspection of the port in Co-ordination with Head of all SBU's.
- · Get up to date condition from the all officers and workmen on duty.
- Ensure completion of cleaning of all roads culverts and drainages.
- If any work is left out take action to compete it within 24 hrs Or cyclone strike.
- · Complete all necessary action to prevent flow of saline water into plain water storages.
- Confirm that all rainwater entry points to the Substations & tunnels are sealed.
- Offer all necessary assistance to HOD-ES for preventive actions.
- Be prepared for tackling inundation due to tidal water.
- · When cyclone is confirmed keep contractors men stand-by, for emergency works during and immediately thereafter, men are not available.
- · Complete strengthening of shoreline, buildings and other civil works, including housing colonies.
- · Keep adequate construction material for taking up emergency works during cyclone.
- · Keep a set of engineers and workmen on stand-by duty for such works.
- · Help Admin co-ordinate evacuation of port areas and to mobilize, collect and distribute relief material.

- In coordination with HOD-ES, keep DG sets for the operation of tube wells.
- · Coordinate with port railway officers for assistance they may require for preventive actions.
- In consultation with CMG keep adequate de-watering pumps operated with diesel engines.
- · Attend CMG meetings.
- All equipment shall be stopped the moment wind approaches 20mtrs/sec, raise the booms and latch them, tie up if latch is not reliable.
- Keep adequate construction material for taking of emergency works.
  - Position
  - → Port Position
- → Alternative
- Primary Support Team

HOD - QHSE & F

HOS - QHSE & F

- Re-check the vulnerable areas with respect to safety and environment.
- Re-check for removal/securing of hazardous and toxic cargo.
- Arrange all necessary arrangements (rescue, medical, safety, environment, fire) ready.
- Liaison with mutual-aid partners for assistance.
- Assist CEO/Executive Director (Corp. Affairs). as instructed.
- Co-ordination with respective HOD/HOS with respect to emergency actions.
- Ensure necessary action through CMG. Provide necessary assistance to CMG.
- Assist with evacuation of all personnel except key personnel.
- Provide HSE & F facilities (Assist with rescue, evacuation, and other necessary arrangements).
- Set up casualty collection centre and arrange first aid posts.
- Arrange enough stock medicines, antidotes, oxygen, stretchers, keeping in mind that road and rail connectivity may be cut off for required period of time.
- Arranges additional medicine and equipment as required.
- Arrange a fully equipped ambulance in ready state.
- Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment.
- Immediately co-ordinate with mutual aids for necessary help/support if required.
  - Position
- → Port Position
- Alternative
- Secondary Support Team

**HOD** - Finance

**HOS - Finance** 

- Initiate action to keep cash as discussed with CEO.
- Inform HODs about the procedure of issuing of cash.
- A separate Insurance Cell under an AGM finance is being formed to deal with all insurance matters.
- As directed by CEO verigy validity of all insurance.
- Issue circular to all HODs indicating the procedure to be followed for raising insurance claims.
- Form seperate teams to handle the finance matters of each department so that all cash expenditure and accounts are properly maintained.

- Position
- Port Position
- Alternative
- → Primary Support Team

HOD - HR & Admin

HOS - HR & Admin

- Keep close liaison with CMC/CMG/HSE and perform coordination with the concurrence of CEO.
- · Keep enough staff and vehicles for emergencies.
- · All activities related to safety and shelter of all officers' staff and staff colony is the responsibility of the administration and HR.
- · Issue instructions to all personnel to close all doors and windows and stay indoor during the actual cyclone period.
- Opening of doors and windows will result in rushing of wind, force opening of other doors and windows and destruction of roof.
- Circulate leaflets among all, including colony, on cyclone information.
- Coordinate evacuation of townships and people staying in low lying areas situation so warranted with the clearance from CEO.
- · Make announcement to colony and nearby villages by Adani Foundation/Corporate affairs about the severity of the imminent cyclone and advice local population to move to safer shelters.
- · Adani Foundation/Corporate affairs in coordination with local authorities to arrange for emergency drinking water and food materials to the evacuees.
- · Liaison arrangements for shelters and food for evacuated persons.
- · Collecting details of evacuated people. This will be necessary to settle claims, if any, at a later date.
- · Consult Legal Advisor and obtain their advice for legalizing all the port's actions.
- · Coordinate with other field group (all departments) for food and drinking water for the persons engaged in cyclone duty and restoration work.
- Document all events and actions in coordination with other HODs for future reference.
  - Position
  - Port Position
- Alternative
- → Incident Controller

HOD - LT

HOS - LT

- Emergency team in contact with Central Control Room for necessary preparedness.
- · All concerned employees and contractual staff informed.
- Contractor staff evacuated from the port and verified.
- · All personnel remaining in the port cautioned against venturing out during effective period
- Transportation arranged for evacuation of emergency team if required. (Employees and contractual staff)
- · Emergency team to stay in continuous contact with other teams for emergency services (such as QHSE & F, Security, other services)
- · Liquid Control (CTF and VEG Oil) Co-ordinate with Marine Control for cyclone bulletins every 6 Hrs.
- Stop all activities, remove all tanker lorries from Liquid Terminal and do not allow any tanker lorries to enter the Liquid Terminal area.
- · Vessels at berth are to be informed to keep main engine

on stand-by at short notice for emergency cast-off in coordination with marine.

- · All equipment/computers in control to be covered and protected against water ingress due to heavy rain.
- All storage tanks' shell and roof manholes to be boxed up.
- · Ensure flange joint connection are tightened.
- · Ensure roads and pathways are cleaned and not obstruct for any vehicle movement during emergency.
- Jetty supervisor to ensure that no personnel are allowed on the jetty areas.
- · Jetty supervisor to brief all workers/labors to remain alert and nominated shelters. Only minimal mooring member to remain in the port and no worker/labour to be on the berth.
- All hydra and jetty/technical vehicle to be parked in the safe shelter.

- Position
- → Port Position
- Alternative
- → Incident Controller

**HOD** – Railway

HOS - Railway

- All normal operations stopped. Only on emergency operations of evacuate of Locomotive and wagon shifting to safe places.
- All equipment (Locomotive & Wagons etc) to be parked at suitable railway yard.
- Transportation arranged for evacuation of staff (employees and contractual staff)
- · Only Emergency team members to remain in the port.
- 2 vehicles stand-by near Railway building and FCC control room.
- Following teams are nominated and tool talked for anticipated emergency action.
  - > Loco Pilot
  - > Loco Maintenance
  - > Track Maintenance
  - > Signal Maintenance
- Emergency team to stay in continuous contact with other teams for emergency services (such as QHSE & F, Security, other services)
- To ensure all contracted and company staff apart from emergency team is evacuated.
- To communicate any pending evacuation from port to emergency team.
- To be in continues touch with marine control room and Railway control room.
  - Position
  - → Port Position
- Alternative
- Incident Controller

HOD - CT

HOS - CT

- Maintain close contact with Marine control for the status of the cyclone.
- All employees concerned and contractual staff informed contractor staff evacuated from the port and verified.
- All personnel remaining in the port cautioned against venturing out during effective period.
- Empty containers not to be stacked more than 3 high.
   loaded containers can be stacked up to 4 high.
- All hand held UHF/batteries, emergency torch, mobile phone fully charged for use in emergency in case of total power failure.
- Operation to be suspended based on information of marine control.
- Only emergency team to be available at site.
- Power supply to all points to be shut off after parking the equipment.
- Ensure that all lighting towers are lowered to minimize damage to them during cyclone.
- All equipment shall be stopped the moment wind approaches 20mtrs/sec, raise the booms and latch them, tie up if latch is not reliable.
- $\bullet\,$  There shall be 3 level of inspection after the parking of equipment.
- · By the leader of the anchoring team, HOS-ES, HOD-ES.
- Personally inspect all equipment (Ship unloaders, HMCs, ship loaders, stacker reclaimers, trailer etc.) and ensure correct parking of equipment.
- · Move the equipment to parked position.
- Travel and position to the respective earmarked parking position and lock.
- Loading boom of Stacker Reclaimers should be lowered and latched at the parking position.
- In case of any difficulty to travel to the parking position lower the boom to the travelling rail, any one side and tie down with the rail.
- Block the travelling wheels and slew wheels mechanically.
- Additionally the rail mounted equipment may be tied to the rails by wire rope and clamps depending on the severity of the predicted cyclone.

# During cyclone till dissipating

- Ensure that all emergency teams and mobile first aid centre are ready for meeting emergencies, as planned. The salvage team at signal station must be ready.
- 2 Before switching off the power supply ensure all the DG sets are in working condition and enough fuel and operating personnel are in place. The DG Sets should be installed on high pedestal to prevent it getting submersed in water.
- 3 Ensure that no one venture out of the office or shelter if the speed of wind is more than 100kmph. Personnel in open may be thrown by force of wind.
- During cyclone, no one should open doors or windows, force of wind will force open other doors and windows. Opened windows or doors cannot be closed and chances of roof lifting upwards are high.
- An emergency team with adequate man power, tools and plants, portable welding sets and gas cutting sets with adequate ropes and other consumables shall be maintained during cyclone for rescue and salvage operation.
- Switch of power supply to all installations from the main power supply source. All important and vital installation shall be manned.

# Post cyclone stage: Recovery, insurance, restoration & relief

The purpose of post cyclone activity is to resume port operation as early as possible. If the eye of the cyclone has passed over the port, wait for complete passing of the rear cyclone before inspection. Confirm the same from the radar station/signal station.

# Site-Main Controller - CEO/Executive Director (Corp. Affairs)

- a. Collect the details of damages if any from HODs immediately.
- b. Ask all members of the CMG to immediately inspect their area of responsibility, along with their subordinate staff and officers and report their finding within 3 hrs. of ceasing of the heavy wind.
- c. Ask the HODs to submit preliminary estimate immediately, followed by detailed estimate.
- d. HOD Marine to be asked to complete the survey of channel and berth as quickly as possible, to resume shipping activity.
- e. All required activities to resume port operations are to be discussed and finalized with HODs.
- f. A department-wise detailed programme is to be drawn up to resume normal port operations.
- g. Regular follow up to complete the work as programmed is to be done.
- h. Emergency powers for procurement and award of contract are to be evoked.
- i. HODs are required to submit the details and programs immediately.
- j. Reports on condition of tugs and other port crafts, ship unloader, ship loaders, HMCs and other auxiliary equipments after thoroughly inspection by HOD.
- k. All other cargo handling equipments like container handling equipment if any shall be inspected by HOD and detailed report to be obtained..
- I. MCCs, Stacker Reclaimers, Wagon tippler and Wagon tippler tunnel,
- m. Conveyor belts, conveyor galleries, Locomotives, Rail load out system etc shall also be inspected carefully by HOD and reports to be obtained condition of Liquid berth and equipments and SPM.
- n. Condition of all civil structures, Roads, Culverts and drainages and water supply system.
- Ask all HODs to submit details to HOD Finance to process insurance claims.
- p. Coordinate the CSR activities.
- q. Keep contact with District Collector and local state Govt. official and offer all possible help for rehabilitation of displaced villagers.
- r. Inform all stockholders regarding all clear & restoration of the port operation. Also inform the same to the corporate office.
- s. Confirm the termination of the emergency after the threat is over.
- t. Lead the Crisis Management Group for early restoration of facilities and resume port activities.

# Incident Controller: HOD - Marine [Marine & SPM]

- a. Marine HOD shall immediately arrange for survey of channel and berth and inform the condition to CEO/COO, Who in turn inform the corporate office and stake holders.
- b. Restoration work if any may be done in association with Head ES.
- c. Shall check the navigational aid system take action for rectifications if required
- d. Check all tugs and mooring crafts and they should be made fully functional as quickly as possible.

#### SPM

- a. Checking both mooring hawser assemblies and replace the components as required.
- b. Replacements of both 9" PP pick ropes of mooring hawsers.
- c. Inspection of each floating hoses on both floating hose strings.
- d. Underwater inspection of each individual hoses on both subsea hose string and subsea umbilical.
- e. Underwater inspection of all deep sea floats for their integrity.
- f. Checking subsea hose strings configuration at low and high tide.
- g. Verifying chain angle of all six anchor chains to be within limits, at low and high tide.
- h. SPM buoy body inspection integrity of seal on all hatches and doors.
- i. Operational check of all navigational and safety equipment.
- j. Carry out the system pressure test from floating hose string end to PLEM valve up to 15 bars and hold for 3 hours. Visual check by divers for any abnormalities on floating hoses and subsea hoses.
- k. Carryout "Free Span and Lateral displacement" survey of subsea pipeline and provide support wherever necessary i.e. if it is beyond recommended allowable span.

## Incident Controller: HOD – ES (MPT & WB)

- a. Shall immediately depute the electrical engineer to have an update of power supply.
- b. In case of power outage, coordinate with Electrical supply authorities for restoration of power supply
- c. If power is available, and MCCs are O.K, charge MCCs one by one after thorough checking.
- d. Depute the same team which has parked the equipment to release the equipment for operation after removing all blockages.
- e. If any equipment is found to be damaged report the matter to higher ups and take action for early repair or decommissioning.
- f. Do not start operating, until all parking locks & additional tie-ups are removed
- g. Equipments also can be charged one by one after charging the MCCs after obtaining written clearance from the engineer in charge.
- Ensure that the equipments electrical system is perfect before charging. Keep records of all measurements.
- i. Inspect the tunnel and dewater the accumulated water.
- j. Inspect all electrical and mechanical system thoroughly before trial run.
- k. All lighting towers which were lowered to be raised up.
- Damaged street lights and damaged internal lighting system to be repaired and re-commissioned.
- m. All belt clamping/tie-up must be removed before trial run of conveyors.
- n. Arrange for de-watering of tunnel with diesel pump if power supply is not readily available.
- o. Ensure all DG sets works till normal power supply is resumed.
- p. Inspect the water supply system and take all action to establish normal water supply immediately.
- q. In case of any difficulty, bring it to the notice of CEO/Executive Director (Corp. Affairs) (Corp. Affairs).
- r. In case of water logging, arrange diesel pumps and pump out water.
- s. Drainage system if damaged should be repaired immediately.
- t. Inspect all roof tops and if any roof is blown off, take action for replacement.
- u. Coordinate with Admin/HR for clean-up activities.
- v. HODs of West Basin will assist the Head West Basin.

## Primary support team: HOD - HR & Admin

- a. Shall take up rehabilitation work of port colony.
- b. Take all actions necessary to rehabilitate the officers and staff of the port.
- c. Coordinate with civil department to clean up the colony and premises.
- d. Arrange for provisions till normalcy is established.
- e. Food arrangements to people on resumption work to be coordinated.

#### Primary support team: HOD - QHSE&F

- a. Assist to CEO/Executive Director (Corp. Affairs)
- b. Assess damage (human) and send for further treatment.
- c. Assess the property damage and prepare report in consultation with concern department.
- d. Assist all HODs with restoration.
- e. Arrange for environmentally safe disposal of post emergency generated effluents/waste.
- f. Updating DMP based on faced natural calamities.

# Secondary support team: HOD – Commercial

- a. Shall inspect all stores and estimate loss or damages if any and take immediate action for re-equipping the items.
- b. Coordinate with all HODs for requirements of consumables and spares.
- c. Discuss with CEO/Executive Director (Corp. Affairs) to ease norms of procurement for immediate supply of stores.
- d. He shall help HOD Commercial for procuring the items necessary for cyclone damage repairs. Post Cyclone

#### Incident controller: HOD – Railway

- a. Shall depute teams of staff to check the condition of all railway track and track electrification and signalling system.
- b. Contractor shall be instructed to depute adequate numbers of teams to survey the entire railway lines and system and submit feedback within the shortest possible time (fix the time period for feedback)
- c. Condition shall be reported to CEO/Executive Director (Corp. Affairs) (Corp. Affairs) and take action to repair and resume operations.
- d. If track electrification is damaged, coordinate with Indian Railways to press in diesel locos till the electric line is repaired, and resume operation with conventional signalling.
- e. Any help for repair and decommissioning may be taken from HOD ES.
- f. He shall also inspect the Locomotives of the Port, and arrange for trial running to put them into operation.
- g. Inspect the Locomotives of the Port, and arrange for trial running to put them into operation.

# Incident controller: HOD – Operations [DC (MPT & WB), CT, LT]

- a. Shall inspect all areas along with concerned HODs to estimate loss and damages if any. Prepare report and submit to CEO.
- b. The condition of stored hazardous/toxic cargo to be inspected along with HSE and immediate action as advised by HSE to be taken up.
- c. Deploy men and equipments to segregate and salvage all cargo.
- d. Coordinate with ES HOD, for assistance in de-watering and plot/shed repairs.
- e. Discuss with CEO/Executive Director (Corp. Affairs) and HODs for resumption of partial or full operations.
- Take all actions for early resumption of port activities.
- g. Coordinate with HOD Marine to resume shipping operations.
- h. Coordinate with HOD Finance for insurance claims.
- All costly and critical materials are stacked properly to avoid loss due to wind or water inundation.
- Estimate the losses and damages along with BD and inform CEO/Executive Director (Corp. Affairs).

# Secondary support team: HOD – Finance & Accounts

#### Insurance claims

- a. All HODs to prepare loss and damage list and estimate the costs of rectification and submit the same to HOD - Finance, who is the nodal officer for claiming insurance, with copies to CEO/Executive Director (Corp. Affairs) (Corp. Affairs). The details shall contain photograph also.
- b. Shall coordinate with insurance company to arrange the surveyor as quickly as possible, so that rectification work can start immediately.
- c. May coordinate with all HODs to prepare additional documents if required.
- d. May collect the details of claims with supporting documents from HODs in a time frame to be fixed by him for early settlement of all claims.
- e. Timely submission of insurance claims necessary for claiming losses.

## Primary support team: HOD - Security

- a. Restoration of road traffic & port entry system from and to the port disrupted due to the cyclone.
- b. Shall be well versed with all road communication of the area.
- c. Shall coordinate with local administration/State administration to clear the roads in consultation with Corporate Affairs.
- d. Port may also be required to engage men and machine to Clear the road blockages.

# Secondary support team: CSR HOD – Adani foundation [General Responsibilities]

The company has a social responsibly to save the life and property of the people living in the peripheral areas. This work involves the following activities. These activities may be done in association with local administration.

- a. Inform the public by public announcement the danger level of the cyclone and its effects and consequences.
- b. Leaflets are to be circulated about the danger level.
- c. If Tidal inundation is expected the villagers may be informed of the consequences.
- d. Request them to move to safer places to escape from heavy wind and tidal actions.
- Moving to Cyclone shelter is the best option. If cyclone shelter is not nearby, they may be asked to move to permanent structures available nearby. Provide them all assistance for evacuation.
- f. Provide the villagers adequate dry food (chuda, gudo, biscuits, baby food etc.) items and potable water in adequate quantity.
- g. Water tankers with potable water may be kept stand-by.
- h. Services of medical team may be extended to the peripheral villages with necessary medicines and first aids.
- i. Advise them to remain indoors during cyclone.
- j. After the cyclone there may be shortage of food and water.
- k. Water has to be provided for their basic needs till normalcy is established.
- I. Start community Kitchens to provide them with food.
- m. Help in rehabilitation of all displaced people in coordination with local Govt. Agencies and NGOs.

- Position
- → Port Position
- Alternative
- Secondary Support
  Team in-charge -Telecommunication
- Take charge of all communication systems of fixed and portable.
- Ensure availability of sufficient numbers of electronic communication equipment to the port control station, Base Control and anywhere else as necessary.

- → Position
- → Port Position
- → Alternative
- Secondary Support Team in-charge IT

- Take charge of all necessary communication system.
- Take all necessary back up of data.
- Assess damage of assets and restore

# Checklist

- Checklist for CEO/Executive Director (Corp. Affairs)
- Following Checklists prepared which shall be used at the time of declaration of Cyclone.

Checklist – 1	CEO/Executive Director (Corp. Affairs) (Corp. Affairs)
Checklist – 2	Marine Services
Checklist – 3	Engineering Services
Checklist – 4	Dry Cargo
Checklist – 5	Liquid Terminal
Checklist – 6	Container Terminal
Checklist – 7	HR & Admin
Checklist – 8	Security
Checklist – 9	Railway Services
Checklist – 10	West Basin
Checklist - 11	QHSE&F

	CEO - Emergency Preparedness				
	Cyclone-Check List				
Sr. No.		Yes	No	Remarks	
Before E	Effective Period				
	Emergency Control Room established at suitable location with communication facilities				
	All teams have reported their readiness for dealing with emergencies.				
	Testing of communication (PA System, Mega phones, VHF, UHF and Landline) with all on site Emergency Control Rooms.				
4	Assess the situation and declare emergency.				
5 ,	Alarms sounded followed by verbal order by PA system.				
6	Evaluate transportation/evacuation/food arrangements.				
7	Confirm readiness of medical facilities.				
	Liaise with government bodies, other stake holders and mutual aid, partners for providing support if necessary.				
	Obtain status of situation from the government Emergency Control Room and disseminate information.				
	All high value assets such as cranes, RTG"s, RMQC, GSU"s, Tugs, Craft, Railway Locos, Dredgers, Stacker, reclaimers are secured.				
11 .	All vehicles topped up with fuel.				
12	Walkie Talkie sets fully charged along with spare charged batteries.				
13	Emergency numbers to be kept with all emergency vehicles				
14	List of emergency contacts & suppliers.				
15	All non-essential persons have been evacuated from the port.				
16	Roads and pathways are clear for emergency movement.				
17	All departments are maintaining a diary noting down action taken.				
	Reports on condition of Tugs and other Port crafts, ship un loader, ship loaders, HMCs and other auxiliary equipments after thoroughly inspection by HOD.				
19	Condition of Oil berth and equipments and SPM.				
During E	Effective Period				
	All personnel notified against venturing out during effective period, All personnel to remain indoor, observant and be alert.				
	Take frequent updates from departments for any damage to property or injury to personnel.				
3	Provide necessary support by on site emergency team.				
After Ef	fective Period				
	Announcement to be made declaring end of emergency or PA system and other means of communication.				
2 .	Advise emergency teams to carry out on-field assessment.				
3	Personnel to be advised not to enter damaged buildings/structures.				
4	Launch search and rescue operations for missing personal.				
	Get reports on causalities and injuries to personnel. Arrange for medical assistance.				
	Carry out assessment of damage to property and all high value assets within the port including ships.				
	Reports to be consolidated with photographs from all departments for insurance claims.				
8	Gradual resumption of port operation.				

	Marine Services - Emergency Preparedness			
	Level - 1 When cyclone is 1000 km away from Mur	ndra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
	Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All concerned employees and contractual staff informed. All personnel notified against venturing out during effective period.			
5	A team is formed to identify and removal of items from jetty which may fall into sea due to strong wind such as life buoy with stand, gangway etc.			
6	Electric equipment at jetty/Tug berth covered and protected against water ingress.			
7	If flood as consequence of Cyclonic Storm/Hurricane is anticipated, Oil Spill Management Plan is activated.			
8	Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Marine Building.			
9	6 Nos of raincoats, charged emergency torches, 2 battery operated torches with spare batteries, 6 life jackets, ropes (50 meters $\times$ 6), life buoys available for emergency use.			
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
11	List of emergency contacts & suppliers available.			
SPM				
	SPM Floating Hose to be flushed and removed 3 days before predicted arrival of cyclone. The Hoses may be brought to South Basin.			
Tugs/N	Narine Police & Coast Guard Crafts			
1	Tugs ME to be kept at short Notice to meet any emergency situation.			
Marine	Control (MMPT & WB)			
	WB Marine Control to issue cyclone bulletins every 6 Hrs.			
2	Vessel at berth and at anchorage informed about cyclone warning.			
3	Vessels at berth are informed to keep Main Engine stand-by at short notice for emergency castoff.			
4	All equipments/computers in MMPT control covered and protected against water ingress due to heavy rain.			
5	All hand held UHF/batteries, emergency torch, mobile phones are fully charged for use in emergency incase of total power failure.			
Jetty S	Supervisor			
	Jetty supervisor to ensure all lines of vessels at berth are always kept taught.			
2	Jetty Supervisor briefed all mooring crew to remain alert, careful and to move in pairs. No Mooring Crew to stand close to the berth.			
3	All Hydra and jetty/technical vehicles parked at safe shelter.			

	Marine Services - Emergency Preparedness					
	Level - 2 When cyclone is 500 km away from Mun	dra				
Sr. No.	Cyclone - Checklist Activity	Yes	No	Remarks		
Before	Effective Period					
1	Appropriate storm warning signal hoisted (as per GMB instruction)					
2	Emergency team to be in contact with Central Control Room for necessary preparedness.					
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations					
4	All concerned employees and contractual staff informed.  Contractor informed to evacuate their staff.  All personnel notified against venturing out during effective period.					
5	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.  Transportation arranged for evacuation of staff (employees and contractual staff)					
6	Team is formed to identify and remove items which may fall into the sea due to strong wind, from the jetty, such as life buoy with stand, gangway etc.					
7	Electric equipment at jetty/tug berth covered and protected against water ingress.					
8	Material & equipment that cannot be moved are covered.					
9	All loose items on jetty are secured.					
10	If flood as consequence of cyclonic storm/hurricane is anticipated, ensure Oil Spill Management Plan is activated					
11	Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Marine Building.					
12	Arrangement made for stand-by vehicle.					
13	Vessels at berth to be casted off if wind speed > 30 Kts with HOD permission.					
14	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)					
Tugs/N	Narine Police & Coast Guard Crafts					
1	Tugs Main Engine kept at short Notice to meet any emergency situation.					
	Control (MMPT & WB)					
1	WB Marine Control to issue cyclone bulletins every 6 Hrs.					
2	WB Marine Control to send cyclone bulletin SMS from 3 day before predicted arrival of cyclone.					
3	All vessel at berth and at anchorage are informed about cyclone warning.					
4	Vessels at berth are to be informed to keep Main Engine on stand-by for emergency castoff, at short notice.					
5	All equipments/computers in MMPT control to be covered and protected against water ingress due to heavy rain.					
6	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure.					

Jetty S	Jetty Supervisor				
1	Jetty supervisor to ensure that all lines of vessels at berth are always kept taught. Vessel to be instructed to double up mooring lines, if required.				
2	Jetty Supervisor to brief all mooring crew to remain alert, careful and should move in pairs. No Mooring Crew to stand close to the berth.				
3	All Hydra and jetty/technical vehicle to be parked at safe shelter.				

	Marine Services - Emergency Preparedness			
	Level - 3 A day before when the cyclone is to stril	ke		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	Appropriate storm warning signal hoisted (as per GMB instruction)			
2	Emergency team in contact with Central Control Room for necessary preparedness.			
3	All concerned employees and contractual staff informed. Contractor staff evacuated from the port and verified, Contractor informed to evacuate their staff. All personnel notified against venturing out during effective period.			
4	All operations must be stopped and personnel moved to a safe location from where they can be evacuated Transportation arranged for evacuation of staff (employees and contractual staff)			
5	Electric equipment covered and protected against water ingress.			
6	Electric equipment at jetty/Tug berth covered and protected against water ingress.			
7	2 pilot vehicles stand-by near marine canteen shelter.			
8	Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Marine Building.			
9	Vessels at berth to be casted off if wind speed > 30 Kts with HOD permission.			
10	Adequate no of raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes, life buoys to be kept on stand-by for emergency use.  Raincoats- 6 nos, gumboots- 6 nos, helmets- 6 nos, gantline- 50 meter x 6 nos available.			
11	All work permits revoked.			
12	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
13	List of emergency contacts & suppliers available.			
Tugs/N	Narine Police & Coast Guard Crafts			
1	MMPT Tugs anchored in South Basin (west of turning circle).			
2	Marine Police & Coast Guard Crafts secured at Ro Ro.			
3	West Basin Tugs secured at WB4.			
4	Doors and hatches on Tug's upper deck kept closed.			
5	Tugs Main Engine kept on stand-by to meet any emergency situation.			

Marin	e Control (MMPT & WB)		
1	WB Marine Control to issue cyclone bulletins every 6 Hrs.		
2	WB Marine Control to send cyclone bulletin SMS to all concerns.		
3	All vessel at berth and at anchorage are informed about cyclone warning.		
4	All vessels informed to keep Main Engine Sby at short notice.		
5	All equipments/computers in MMPT control covered and protected against water ingress due to heavy rain.		
6	All hand held UHF/batteries, Emergency torch, Mobile Phone fully charged for use in emergency incase of total power failure.		
7	MMPT and WB Radar/VHF Antennas are secured properly to prevent damage.		
Jetty	Supervisor		
1	Jetty supervisor to ensure that no personnel are allowed on the Jetty areas.		
2	Jetty Supervisor to brief all mooring crew to remain alert and nominated shelters. Only minimal mooring crew member to remain in the port and no Mooring Crew to be on the berth.		
3	All Hydra and jetty/technical vehicle parked at safe shelter.		
During	g Effective Period		
1	All personnel notified against venturing out during effective period.		
2	All personnel to remain indoor, observant and be alert.		
3	DPC, MMPT Marine Control Officer and data entry operator to take shelter in New Marine Building with all hand held VHF, UHF, emergency light and mobile phones.		
4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		
After	Effective Period		
1	Assess damage to equipments, building and unsafe condition.		
2	Initiate restart process.		

	Engineering Service-MPT - Emergency Preparedness					
	Level - 1 When cyclone is 1000 km away from Mundra					
Sr. No.	Activity	Yes	No	Remarks		
1	Engineering Service-MPT Emergency team formed for dealing with the emergency					
2	Emergency team is in contact with Central Control Room for necessary preparedness.					
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation identify tasks to be undertaken identify resources available for tasking determine gaps in information and resources access expert advice as required develop and implement tactical plans for response and recovery operations					
4	People are made aware of do's and don'ts before, during and after Cyclone			part of training. List of do's and don'ts enclosed		

5	A backup team is formed to identify potential flying objects (Roofing, sheeting, temp sheds etc.) and secure/remove them.		Team will com- prise of backup and stevedoring shift Incharge from DC, shift Incharge of ES and safety.
6	Connection of all the electrical equipment/appliances are checked and if not required the same are disconnected. Electrical supply/connection for all the unwanted items are disconnected		
7	Portacabins to be secured properly and relocation of electronic equipment from various porta cabins to designated location. Note: Equipment which are prone to be affected by cyclone should properly secured or tied such as pota cabin etc		
8	Following team of ES-MPT are nominated and tool talked for anticipated emergency action.  A) Shift Inch rage- Electrical ES-MPT (For LT, Dry Cargo & Common SBU)  B) Shift Inchrage-Mechanical ES-MPT (For LT, Dry Cargo & Common SBU)  C) Shift Inchrage-Civil ES-MPT (For LT, DRY Cargo & Common SBU)		
9	Coordination with labour contractors for making necessary arrangements towards evacuation of labours (Approx. 400 No's) deployed at FCC, Conveyor, Jetty, Steel Yard & Liquid terminal. Actual evacuation to be done only after port shutdown is declared from CEO office.		List of average manpower in port on normal operation day is enclosed
10	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.		
11	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
12	List and contact details of customers ,contractors and port emergency contacts. Refer List		
ES-MF	PT Coordination desk		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external contractor		
2	To appraise ES-MPT shift Incharge every 12 hrs who in turn will appraise their reportees & colleagues.		
3	All emergency equipment such as de-watering pump to be maintained up to operational condition. Hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.		
ES MF	PT -HOS		
1	Respective ES-MPT-HOS to ensure that all the arrangement for securing Cranes/Mobile Equipment is in order.		
2	Respective ES -MPT-HOS in coordination with emergency team to appraise the contracted labour supervisor at jetty and backup of the developments.		
3	Pictorial records of the sequence of events and preparedness (For Insurance Purpose) to be maintained		For insurance purpose

Note : At the time of cyclone & tsunami warning , priority to be given to worker, technician working on jetty or below jetty.

Engineering Service -MPT - Emergency Preparedness Cyclone - Checklist ES-MPT squeezes to bare essential maintenace activity with limited resources to ensure quick rap up. ES-MPT Emergency team to be in contact with Central Control Room for necessary preparedness. Mobile harbour cranes & Goliath cranes is properly parked and lashed in boom down condition. A) Shift Incharge B) Engineers/Technician Material & equipment that cannot be moved are covered. All loose items on jetty/backup are secured. Nomination of Emergency response vehicles (2 No's) All work permits revoked. Work at height is stopped and not permitted. Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services) ES-MPT Coordination desk To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external contractor. To inform all contracted and company staff about cyclone to To take feedback of evacuation process and highlight progress/issues emergency team. To check all hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure. Emergency equipment such as DG Set, de-watering pump, hydra, excavator, forklift to be maintained & operational condition. All computers/peripherals in MPT control to be covered and protected against water ingress due to heavy rain. **ES-MPT HOS** Respective ES-MPT-HOS to ensure that all the arrangement for securing Cranes/Mobile Equipment is in order. ES-MPT-HOS in coordination with emergency team to instruct the Keep pictorial records of the sequence of events and preparedness( For insurance For Insurance Purpose) purpose

	Engineering Service -MPT - Emergency Preparedr	iess			
	Level - 3 A day before when the cyclone is to stri	ke			
	Cyclone - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
1	All normal operations stopped. Only emergency operations (securing of MHC/Goliath/LMC/ equipment/Hoppers/dumpers/trailers) to be continued.				
2	Cranes are parked at safe locations with lowered and secured booms.				

3	All mobile truck loading hoppers at Jetty are arrested at their wheels		
	to prevent horizontal movement due to wind and secured from its top by arranging guy ropes.		
4	ES-MPT Emergency Response team having nominated member of FCC		
	control room , DG House substation , Workshop , ES-MPT coordination		
	desk is handy with VHF sets , Emergency Torches, Rain Coat.		
5	Central control room (Adani House) issues Port closure notice		
6	All equipment (Pay loaders/excavators etc. ) to be parked at OSY 10 or nominated OSY with full fuel.		
7	All dumpers/Trailers to be parked at OSY 5/nominated place with full fuel.		
8	All godown gates are kept closed.		
9	Transportation arranged for evacuation of staff (employees and contractual staff)		
10	Emergency Kit, Food supplies and drinking water checked and tested.		
11	Communication mediums like VHF, Mobile phones and PA systems checked and tested		
12	Only Emergency team members to remain in the port.		
13	2 pilot vehicles stand-by near Tug berth building and FCC control room.		
14	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
15	Shall immediately depute the electrical engineer to have an update of power supply.		
16	Ensure that the equipments electrical system is perfect before charging. Keep records of all measurements.		
17	Ensure all DG sets works till normal power supply is resumed.		
18	In case of power outage, Coordinate with Electrical supply authorities for restoration of power supply		
19	Drainage system if damaged should be repaired immediately. Inspect all roof tops and if any roof is blown off, take action for replacement.		
20	Neceesary required sand bag to be kept as a send by to support the roof sheets.		
ES-MP	T Coordination desk		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external contractor.		
2	To ensure all contracted and company staff apart from emergency response team is evacuated.		
3	To highlight any pending evacuation from port to emergency team.		
4	To be in continues touch with marine control room and FCC control room.		
During	Effective Period		
1	All personnel notified against venturing out during effective period.		
2	All personnel to remain indoor, observant and be alert.		
3	Emergency team members, shift manager and coordination desk personnel t take shelter in their respective control rooms with all hand held VHF, UHF, emergency light and mobile phones.		
4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		

After	Effective Period		
1	Take headcount of all the personnel. (FCC , Steel Yard, Jetty , tug berth building & Liquid terminal)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
4	Assess damage to equipment, resources and cargo.		
5	Initiate restart process.		
6	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
7	Inspect all electrical and mechanical system thoroughly before Trial run.		
8	All lighting towers which were lowered to be raised up.		
9	Damaged street lights and damaged internal lighting system to be repaired and recommissioned.		
10	All belt clamping/tie-up must be removed before trial run of conveyors.		

	Dry Cargo - Emergency Preparedness			
	Level - 1 When cyclone is 1000 km away from Mu	ndra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Dry Cargo Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	People are made aware of do's and don'ts before, during and after Cyclone			part of training. List of do's and don'ts enclosed
5	A backup team is formed to identify potential flying objects (Roofing, sheeting, temp sheds etc.) and secure/remove them.			Team will comprise of backup and stevedoring shift Incharge from DC, shift Incharge of ES and safety.
6	Connection of all the electrical equipment/appliances are cheked and if not required the same are disconnected. Electrical supply/ connection for all the unwanted items are disconnected			
7	All non-operating godowns gates closed.			

Cargo secured inside warehouse and Open Plots. Tarpaulin sheets kept ready where ever fertilizer and agri cargo stored. An inventory to cover 3 Lakh MT of cargo to be maintained. Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding. All Spare equipment (Pay loaders/excavators etc.) parked at All Spare dumpers/Trailers to be parked at OSY 5/nominated place. Portacabins to be secured properly and relocation of electronic equipment from various porta cabins to designated location Following team of operators are nominated and tool talked for List of average anticipated emergency action. manpower in A) Crane Operators- 3 No's port on normal B) Loader Operators - 6 No's operation day is C) excavator operators - 4 Nos. enclosed D) Forklift operators- 2 No's Coordination with labour contractors for making necessary arrangements towards evacuation of labours (Approx. 650 No's), (75 No's) deployed at FCC, Maruti, Steel Yard, Stevedoring and declared from CEO office. Drinking water (10 bottles of 20 litre) and dry non perishable food available for 30 people (2 days) at Tug berth building and FCC control room Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services) List and contact details of customers ,contractors and port emergency contacts. Dry Cargo Coordination desk To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all To appraise Jetty /Backup and FCC shift Incharge every 12 hrs who in turn will appraise their reportees. charged for use in emergency in case of total power failure. Dry cargo Shift manager DC Shift Manager to ensure that all the arrangement for securing Cranes/Mobile Equipment is in order. DC Shift Manager in coordination with emergency team to appraise the contracted labour supervisor at jetty and backup of the developments. For insurance (For Insurance Purpose) purpose

	Dry cargo - Emergency Preparedness			
	Level - 2 When cyclone is 500 km away from Mun	dra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Dry cargo operations squeeze to bare essential productivity with limited resources to ensure quick rap up.			
2	Emergency team to be in contact with Central Control Room for necessary preparedness.			
3	All jetty operations to stop if wind speed exceeds 30 Knots or heavy rainfall occurs.			
4	All non operational godown gates kept closed.			
5	Cargo secured inside warehouses and Open Plots. Cargo covered near gates inside warehouses.			
6	Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.			
7	All spare equipment (Pay loaders/excavators etc. ) parked at OSY 10 or nominated OSY.			
8	All Spare dumper/Trailers parked at OSY 5/nominated place.			
9	Following team of operators is deployed for anticipated emergency action.  A) Crane Operators- 3 No's  B) Loader Operators - 6 No's  C) Excavator operators - 4 Nos.  D) Forklift operators- 2 No's			
10	Material & equipment that cannot be moved are covered.			
11	All loose items on jetty/backup are secured.			
12	Nomination of Emergency response vehicles (2 No's)			
13	Vessels at Berth prepared for emergency cast off.			
14	All work permits revoked. Work at height is stopped and not permitted.			
15	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
Dry Ca	rgo Coordination desk			
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers .			
2	To inform all contracted and company staff about cyclone to evacuate their staff.			
3	To take feedback of evacuation process and highlight progress/issues emergency team.			
4	To check all hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.			
5	All computers/peripherals in MPT control to be covered and protected against water ingress due to heavy rain.			
Dry Ca	rgo Coordination desk			
1	DC Shift Manager to ensure that all the arrangement for securing Cranes/Mobile Equipment is in order.			
2	DC Shift Manager in coordination with emergency team to instruct the contracted labour supervisors at jetty and backup to ensure proper and adequate evacuation of labours and their staff			
3	Providing other dept. including safety, security, etc. mobile equipment and vehicles as per requirement given by them.			
4	Keep pictorial records of the sequence of events and preparedness(For Insurance Purpose)			For insurance purpose

	Dry cargo - Emergency Preparedness			
	Level - 3 A day before when the cyclone is to stril	ke		
	Cyclone - Checklist			
	Activity	Yes	No	Remarks
	Effective Period			
1	All normal operations stopped. Only emergency operations (securing of MHC/Goliath/LMC/ equipment/Hoppers/dumpers/trailers) to be continued.			
2	Cranes are parked at safe locations with lowered and secured booms.			
3	All mobile truck loading hoppers at Jetty are arrested at their wheels to prevent horizontal movement due to wind and secured from its top by arranging guy ropes.			
4	FCC control room and DC coordination desk is handy with VHF sets , Emergency Torches, Rain Coat.			
5	Central control room (Adani House) issues Port closure notice			
6	All equipment (Pay loaders/excavators etc. ) to be parked at OSY 10 or nominated OSY with full fuel.			
7	All dumpers/Trailers to be parked at OSY 5/nominated place with full fuel.			
8	All godown gates are kept closed.			
9	Transportation arranged for evacuation of staff (employees and contractual staff)			
10	Emergency Kit, Food supplies and drinking water checked and tested.			
11	Communication mediums like VHF, Mobile phones and PA systems checked and tested			
12	Only Emergency team members to remain in the port.			
13	2 pilot vehicles stand-by near Tug berth building and FCC control room.			
14	Following team of operators remain at stand-by (at Tug Berth building) for emergency action.  A) Crane Operators - 3 No's  B) Loader Operators - 6 No's  C) excavator operators - 4 Nos.  D) Forklift operators - 2 No's			
15	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
16	All costly and critical materials are stacked properly to avoid loss due to Wind or water inundation.			
Dry Ca	rgo Coordination desk			
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers .			
2	To ensure all contracted and company staff apart from emergency team is evacuated.			
3	To highlight any pending evacuation from port to emergency team.			
4	To be in continues touch with marine control room and FCC control room.			
During	Effective Period		1	
	All personnel notified against venturing out during effective period.			
2	All personnel to remain indoor, observant and be alert.			
3	Emergency team members, shift manager and coordination desk personnel t take shelter in their respective control rooms with all hand held VHF, UHF, emergency light and mobile phones.			

4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		
After 6	Effective Period		
1	Take headcount of all the personnel. (FCC, backup, steel yard, jetty & tug berth building)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
4	Assess damage to equipment, resources and cargo.		
5	Initiate restart process.		
6	Photographs to be taken for assessing damages to cargo and property for insurance.		
7	Communication to be sent to all clients regarding assessed and potential damage to cargo.		
8	Estimate the losses and damages inform to CEO		
9	Discuss with CEO and HODs for resumption of partial or full operations. Take all actions for early resumption of Port activities.		

	Liquid Terminal - Emergency Preparedness			
	Level - 1 When cyclone is 1000 km away from Mur	ndra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All concerned employees and contractual staff informed. All personnel notified against venturing out during effective period.			
5	Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Liquid Building.			
6	11 Nos of raincoats, charged emergency torches, 2 battery operated torches with spare batteries, 6 life jackets, ropes (50 meters $\times$ 6), life buoys available for emergency use.			
7	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
8	List of emergency contacts $\&$ O $\&$ M Agency contact number shall be available			

Liquid	Control (CTF and VEG Oil)		ı	
1	Co-ordinate with Marine Control for cyclone bulletins every 6 Hrs.			
2	Inform all contractors to remove all their equipment from liquid terminal area and put in proper location.			
3	Vessel at berth and at anchorage informed about cyclone warning.			
4	All hand held UHF/batteries, emergency torch, mobile phones are fully charged for use in emergency incase of total power failure.			
5	Check & clean of dyke wall for all tanks. (Ensue valves of dyke wall are in open condition)			
6	Floating roof tank ensure the tank roof draining system valves must be in open condition, and Pipe line shall be thoroughly cleared, NRV shall be in working condition.			
7	Material (i.e Oil Drums, sludge tanks etc.) & equipment that cannot be moved are to be covered.			
8	Check earhing of pipelines & tanks with help of ES E & I.			
9	Clean the spillage material for prevent slippery surface.			
10	All storm water drainage system(sumps and clear passage of line) should be clean and cover properly			
11	Kept appropriate PPE's.			
12	Electric machinery is covered and protected against water ingress.			
Jetty 9	Supervisor			
1	Jetty supervisor to ensure all lines of vessels at berth are always kept tight			
2	Jetty Supervisor briefed all workers/labors be alert, careful and to move in pairs. No one to stand close to the berth.			
3	All Hydra and jetty/technical vehicles parked at safe shelter.			
4	Safe guard all loose material including Hose and drums and other loose material			

	Liquid Terminal - Emergency Preparedness			
	Level - 2 When cyclone is 500 km away from Mur	ndra		
	Cyclone - Checklist	1010		
0.11				
Sr. No.	Activity	Yes	No	Remarks
1	Appropriate storm warning signal hoisted (as per GMB instruction)			
2	Emergency team to be in contact with Central Control Room for necessary preparedness.			
3	All concerned employees and contractual staff informed. Contractor informed to evacuate their staff. All personnel notified against venturing out during effective period.			
4	All operations must be stopped and personnel moved to a safe location from where they can be evacuated. Only Emergency team members to remain in the port.  Transportation arranged for evacuation of staff (employees and contractual staff)			
5	Material & equipment that cannot be moved are covered.			
6	All loose items on jetty are secured.			
7	Arrangement made for stand-by vehicle.			
8	Evacuate all tank trucks from Liquid Terminal			

9	All work permits revoked.		
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
11	Remove all loose materials(i.e Hoses shifted to be Hose shed) and equipment (i.e. MOBILE PUMPS etc.) from jetty & Liquid terminal area.		
Liquid	Control (CTF and VEG Oil)	ı	
1	Co-ordinate with Marine Control for cyclone bulletins every 6 Hrs.		
2	Stop all activities, remove all tanker Lorries from liquid terminal and do not allow any tanker Lorries to enter the liquid terminal area.		
3	All vessel at berth informed about cyclone warning. In case of severe cyclone, vessels to be informed to move out of Gulf of Kutch to keep well clear of the cyclone.		
4	Vessels at berth are to be informed to keep Main Engine Sby at short notice for emergency castoff.		
5	All equipment/computers in control to be covered and protected against water ingress due to heavy rain.		
6	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure.		
7	All storage tanks shell and roof manholes to be box up		
8	Ensure flange joint connection to be tighten.		
9	Check foundation of all tank & pumps.		
10	Removed all employees from the operational activity.		
11	If flood as consequence of Cyclonic Storm/Hurricane is anticipated, ensure Oil Spill Management Plan is activated.		
12	Adequate drinking water and dry non perishable food at jetty area.		
13	All electrical and diesel driven pumps should be ready in all respects for immediate use.		
14	Ensure roads and pathways are cleaned and not obstruct for any vehicle movement during emergency		
15	Safe guard surface heat tracing system of pipeline		
Jetty S	Supervisor		
1	Jetty supervisor to ensure that all lines of vessels at berth are always kept tight. Vessel to be instructed to double up mooring lines, if required.		
2	Jetty Supervisor to brief all Labors to remain alert, careful and should move in pairs. No one to stand close to the berth.		
3	All Hydra and jetty/technical vehicle to be parked at safe shelter.		
4	Dis-Connections of flexible hose with the shipping vessels and communicate Marine Dept./Shipping		
5	Adequate drinking water and dry non perishable food at jetty area.		
6	Safe guard all loose material including Hose and drums and other loose material		

Liquid Terminal - Emergency Preparedness				
	Level - 3 A day before when the cyclone is to strike			
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	Appropriate storm warning signal hoisted			
2	Emergency team in contact with Central Control Room for necessary preparedness.			

3	All concerned employees and contractual staff informed.		
	Contractor staff evacuated from the port and verified, All personnel remaining in the port cautioned against venturing out		
	during effective period.		
4	Transportation arranged for evacuation of emergency team if required. (employees and contractual staff)		
5	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
Liquid	Control (CTF and VEG Oil)		
1	Co-ordinate with Marine Control for cyclone bulletins every 6 Hrs.		
2	Stop all activities, remove all tanker Lorries from liquid terminal and do not allow any tanker Lorries to enter the liquid terminal area.		
3	Vessels at berth are to be informed to keep Main Engine Sby at short notice for emergency castoff in coordination with marine.		
4	All equipment/computers in control to be covered and protected against water ingress due to heavy rain.		
5	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure.		
6	VHF Antennas are secured properly to prevent damage.		
7	All storage tanks shell and roof manholes to be box up		
8	Ensure flange joint connection to be tighten.		
9	If flood as consequence of Cyclonic Storm/Hurricane is anticipated, ensure Oil Spill Management Plan is activated.		
10	Adequate drinking water and dry non perishable food at jetty area.		
11	All electrical and diesel driven pumps should be in stand-by position.		
12	Ensure roads and pathways are cleaned and not obstruct for any vehicle movement during emergency		
Jetty S	Supervisor		
1	Jetty supervisor to ensure that no personnel are allowed on the Jetty areas.		
2	Jetty Supervisor to brief all workers/Labors to remain alert and nominated shelters. Only minimal mooring member to remain in the port and no Worker/Labor to be on the berth.		
3	All Hydra and jetty/technical vehicle to be parked at safe shelter.		
During	Effective Period		
1	All personnel notified against venturing out during effective period.		
2	All personnel to remain indoor, observant and be alert.		
3	Veg oil Control Staff and CTF Control Staff to take shelter in Liquid Office(Old Control) room with all hand held VHF, UHF, emergency light and mobile phones.		
4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		
After E	Effective Period		
1	Assess damage to equipment, building and unsafe condition.		
2	Initiate restart process.		
3	The condition of stored hazardous/toxic cargo to be inspect.		

	Container Terminal - Emergency Preparedness			
	Level - 1 When cyclone is 1000 km away from Mur			
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All employees concernd and contractual staff informed. All personnel notified against venturing out during effective period.			
5	A team is formed to identify and removal of items from jetty which may fall into sea due to strong wind such as life buoy with stand, gangway etc.			
6	Park the cranes and equipment at safe location, QC boom must be up and secure them			
7	If flood as consequence of Cyclonic Storm/Hurricane is anticipated, Oil Spill Management Plan is activated.			
8	Sufficient Drinking water and dry non perishable food available at CT2 and CT3 operation buildings.			
9	Adequate no of raincoats, charged emergency torches, 2 battery operated torches with spare batteries, 6 life jackets, ropes (50 meters x 6), life buoys available for emergency use.			
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
11	List of emergency contacts & suppliers available.			
Tower	Control room ( CT2 and CT3)			
1	Tower Control to issue cyclone bulletins every 6 Hrs.			
2	All hand held UHF/batteries, emergency torch, mobile phones are fully charged for use in emergency incase of total power failure.			
Wharf	Supervisor			
1	Wharf supervisor to ensure all lines of vessels at berth are always kept taught and all hatch coveres colosed. Vessels instructed to double up mooring lines, if required.			
2	Wharf Supervisor briefed all to remain alert, careful and to move in pairs. No ITV, Operators, checker stand close to the QC, Vessel and on wharf.			
3	All golf cars, other cars and LMV vehicles parked at safe shelter.			

	Container Terminal - Emergency Preparedness			
	Level - 2 When cyclone is 500 km away from Mun	dra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Appropriate storm warning signal hoisted (as per GMB instruction)			
2	Emergency team to be in contact with Central Control Room for necessary preparedness.			
3	All employees concerned and contractual staff informed.  Contractor informed to evacuate their staff.  All personnel notified against venturing out during effective period.			
4	All operations must be stopped and personnel moved to a safe location from where they can be evacuated. Only Emergency team members to remain in the port.  Transportation arranged for evacuation of staff (employees and contractual staff)			
5	Material & equipment that cannot be moved are covered.			
6	All RTG, QC are secured.			
7	Arrangement made for stand-by vehicle.			
8	Vessels at berth to be casted off if wind speed > 30 Kts with container terminal head permission.			
9	All work permits revoked.			
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
Tower	Control (CT2 & CT3)			
	Tower Control to issue cyclone bulletins every 3 Hrs.			
2	Tower controller to send cyclone bulletin SMS from 3 day before predicted arrival of cyclone.			
3	Vessels at berth are to be informed to keep Main Engine Sby at short notice for emergency castoff.			
4	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure.			
Wharf	Supervisor			
1	Wharf supervisor to ensure that all lines of vessels at berth are always kept taught. Hatch covers to be closed. Vessel to be instructed to double up mooring lines, if required.			
2	Wharf Supervisor to brief all to remain alert, careful and should move in pairs. No one to stand close to RTG, QC and on wharf.			
3	All loose materials, technical vehicle to be parked at safe shelter.			

Container Terminals - Emergency Preparedness					
	Level - 3 A day before when the cyclone is to str	ke			
	Cyclone - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
Before	Effective Period				
	Appropriate storm warning signal hoisted (as per GMB instruction)				
2	Emergency team in contact with Central Control Room for necessary preparedness.				
3	All employees concerned and contractual staff informed.  Contractor staff evacuated from the port and verified,  All personnel remaining in the port cautioned against venturing out during effective period.				

4	Transportation arranged for evacuation of emergency team if required. (employees and contractual staff)		
5	All containers bring down up three high ( as per possibility)		
6	Vessels at berth to be casted off if cyclone wind speed is expected to be > 30 Kts with HOD permission.		
7	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
Marin	e Police & Coast Guard Crafts		
1	Marine Police & Coast Guard Crafts to be cast off from RoRo pontoon.		
CT2 aı	nd CT3 Tower control room		
1	CT2 and CT3 Control to communicate cyclone bulletins every Hr.		
2	CT2 and CT3 Control to send cyclone bulletin SMS to all concerned.		
3	All hand held UHF/batteries, Emergency torch, Mobile Phone fully charged for use in emergency incase of total power failure.		
Wharf	Supervisor		
	Wharf supervisor to ensure that no personnel are allowed on the Jetty areas.		
2	Wharf Supervisor to brief all mooring crew to remain alert and nominated shelters. Only minimal mooring crew member to remain in the port and no Mooring Crew to be on the berth.		
3	All Cranes must be in anchored position.		
During	g Effective Period		
	No personnel shall be allowed to be exposed himself to the cyclone during effective period.		
2	All personnel to remain indoor, observant and be alert.		
3	CT2 and CT3 Control Officer and Planners to take shelter in New CT operation Building with all hand held VHF, UHF, emergency light and mobile phones.		
4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		
After	Effective Period		
1	Assess damage to equipments, building and unsafe condition.		
2	Initiate restart process.		

	Administration - Emergency Preparedness						
Level - 1 When cyclone is 1000 km away from Mundra							
	Cyclone - Checklist						
Sr. No.	Activity	Yes	No	Remarks			
1	Emergency team formed for dealing with the emergency						
2	Emergency team is in contact with Central Control Room for necessary preparedness.						
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources;						

4	All concerned employees and contractual staff informed. All personnel notified against venturing out during effective period.		
5	Drinking water (50 bottles of 20 ltr) and dry non perishable food available at all Canteens		
6	10 Nos of raincoats, 06 nos. charged emergency torches, 06 battery operated torches with spare batteries in each control room, ropes (50 meters) in each buses available for emergency use.		
7	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
8	List of emergency contacts & suppliers available.		

Administration - Emergency Preparedness							
Level - 2 When cyclone is 500 km away from Mundra							
	Cyclone - Checklist						
Sr. No.	Activity	Yes	No	Remarks			
1	Emergency team to be in contact with Central Control Room for necessary preparedness.						
2	Drinking water (50 bottles of 20 ltr) and dry non perishable food available at all Canteens						
3	All concerned employees and contractual staff informed. Contractor informed to evacuate their staff. All personnel notified against venturing out during effective period.						
4	All operations must be stopped and personnel moved to a safe location from where they can be evacuated. Only Emergency team members to remain in the port.  Transportation arranged for evacuation of staff (employees and contractual staff)						
5	Arrangement made for stand-by vehicle.						
6	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)						

	Administration - Emergency Preparedness					
Level - 3 A day before when the cyclone is to strike						
	Cyclone - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
	Emergency team in contact with Central Control Room for necessary preparedness.					
2	Drinking water (50 bottles of 20 ltr) and dry non perishable food available at all Canteens					
3	All concerned employees and contractual staff informed.  Contractor staff evacuated from the port and verified,  All personnel remaining in the port cautioned against venturing out during effective period.					
4	Transportation arranged for evacuation of emergency team if required. (employees and contractual staff)					
5	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)					

Durin	During Effective Period						
1	All personnel notified against venturing out during effective period.						
2	All personnel to remain indoor, observant and be alert.						
3	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.						
4	All doors and windows of buildings kept shut.						
After	Effective Period						
1	Assess damage to equipments, building and unsafe condition.						
2	clean up the colony and premises						
3	Arrange for provisions till normalcy is established. Food arrangements to people on resumption work to be coordinated.						

	Security Services - Emergency Preparedness						
	Level - 1 When cyclone is 1000 km away from Mundra						
Cyclone - Checklist							
Sr. No.	Activity	Yes	No	Remarks			
1	Obtain status of Cyclone at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures						
2	Be in touch with Marine Control Room for updates						
3	Establishment of Emergency Control Room at suitable location with communication facilities						
4	A team is to be formed for emergency.						
5	All vehicles to be topped up with fuel – prior to effective period and top up on daily basis.						
6	Walkie talkie sets to be fully charged along with stand-by batteries						
7	Keep mobiles (personal/official) fully charged						
8	Ensure emergency lights are functioning						
9	Ensure mega phones are functioning (change old batteries)						
10	Ensure public announcement (PA system) on ERT vehicle is functioning						
11	Ensure Digital Cameras and Handy Cam fully charged.(ERT, PSC, MSB, MWB)						
12	Ensure security guards in possession of all PPEs and whistle						
13	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), At respective gate & 01 at ISCR,						
14	Traffic Cone to be removed and kept in closed room (may be affected by high wind)						
15	Frontier from roads to be removed and kept in Covered Godown in stacking mode.						
16	Search lights to be kept ready dully functional.						
17	Hammer and cutting tools (available with Fire Dept).						
18	Bottled drinking water to kept in all emergency vehicles						
19	First Aid Box to be kept with all emergency vehicles dully updated from medical wing.						
20	Emergency numbers to be kept with all emergency vehicles						
21	"Security Reinforcement to be kept ready at Guards colony with due provision of transport (whichever transport mode is available)						

22	Alternate route for Hospital and other locations to be checked and available with all emergency teams.		
23	Detailed briefing of security guards to be carried out		
24	Communication to be done as per requirement (to save battery of mobile & VHF)		
25	Removal of security guard from remote and isolated location as per instruction of ISCR.		
26	Ensure rain coat available with all Security personnel on duty		
27	List of emergency contacts & suppliers.		
28	Material & equipment that cannot be moved are to be covered.		
29	Hoist appropriate storm warning Signal.		
30	Remove all loose materials and equipment from jetty & other area.		
31	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings).		
32	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels		
33	Ensure roads and pathways are cleaned		

	Security Services - Emergency Preparedness						
	Level - 2 When cyclone is 500 km away from Mundra						
Cyclone - Checklist							
Sr. No.	Activity	Yes	No	Remarks			
1	Obtain status of cyclone at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures						
2	Be in touch with Marine Control Room for updates						
3	Establishment of Emergency Control Room at suitable location with communication facilities						
4	A team is to be formed for emergency.						
5	All vehicles to be topped up with fuel – prior to effective period and top up on daily basis.						
6	Walkie talkie sets to be fully charged along with stand-by batteries						
7	Keep mobiles (personal/official) fully charged						
8	Ensure emergency lights are functioning						
9	Ensure mega phones are functioning (change old batteries)						
10	Ensure public announcement (PA system) on ERT vehicle is functioning						
11	Ensure Digital Cameras and Handy Cam fully charged.(ERT, PSC, MSB, MWB)						
12	Ensure security guards in possession of all PPEs and whistle						
13	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), At respective gate & 01 at ISCR,						
14	Traffic Cone to be removed and kept in closed room (may be affected by high wind)						
15	Frontier from roads to be removed and kept in Covered Godown in stacking mode.						
16	Search lights to be kept ready dully functional.						
17	Hammer and cutting tools (available with Fire Dept).						
18	Bottled drinking water to kept in all emergency vehicles						

19	First Aid Box to be kept with all emergency vehicles dully updated from medical wing.		
20	Emergency numbers to be kept with all emergency vehicles		
21	Security Reinforcement to be kept ready at Guards colony with due provision of transport (whichever transport mode is available).		
22	Alternate route for Hospital and other locations to be checked and available with all emergency teams.		
23	Detailed briefing of security guards to be carried out		
24	Communication to be done as per requirement (to save battery of mobile & VHF)		
25	Removal of security guard from remote and isolated location as per instruction of ISCR.		
26	Ensure rain coat available with all Security personnel on duty		
27	List of emergency contacts & suppliers.		
28	Material & equipment that cannot be moved are to be covered.		
29	Hoist appropriate storm warning Signal.		
30	Remove all loose materials and equipment from jetty & other area.		
31	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings).		
32	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels		
33	Ensure roads and pathways are cleaned		

	Security Services - Emergency Preparedness					
	Level - 3 A day before when the cyclone is to strike					
	Cyclone - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
Genera	l Points					
1	Obtain status of Cyclone at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures					
2	Be in touch with Marine Control Room for updates					
3	Establishment of Emergency Control Room at suitable location with communication facilities					
4	A team is to be formed for emergency					
5	All vehicles to be topped up with fuel – prior to effective period and top up on daily basis					
6	Walkie talkie sets to be fully charged along with stand-by batteries					
7	Keep mobiles (personal/official) fully charged					
8	Ensure emergency lights are functioning					
9	Ensure mega phones are functioning (change old batteries)					
10	Ensure public announcement (PA system) on ERT vehicle is functioning					
11	Ensure digital cameras and handy cam fully charged (ERT, PSC, MSB, MWB)					
12	Ensure security guards in possession of all PPEs and whistle					
13	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), at respective gate & 01 at ISCR					

14	Traffic cone to be removed and kept in closed room (may be affected		
	by high wind)		
15	Frontier from roads to be removed and kept in covered godown in stacking mode.		
16	Search lights to be kept ready and fully functional.		
17	Hammer and cutting tools (available with Fire Dept).		
18	Bottled drinking water to kept in all emergency vehicles		
19	First Aid Box to be kept with all emergency vehicles duly updated from medical wing.		
20	Emergency numbers to be kept with all emergency vehicles		
21	Security Reinforcement to be kept ready at Guards colony with due provision of transport (whichever transport mode is available).		
22	Alternate route for Hospital and other locations to be checked and available with all emergency teams.		
23	Detailed briefing of security guards to be carried out		
24	Communication to be done as per requirement (to save battery of mobile & VHF)		
25	Removal of security guard from remote and isolated location as per instruction of ISCR.		
26	Ensure rain coat available with all Security personnel on duty		
27	List of emergency contacts & suppliers.		
28	Material & equipment that cannot be moved are to be covered.		
29	Hoist appropriate storm warning Signal.		
30	Remove all loose materials and equipment from jetty & other area.		
31	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings).		
32	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels		
33	Ensure roads and pathways are cleaned		
Durin	g Effective Period		
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.		
2	All personnel to be notified against venturing out during effective period.		
3	All personnel to remain indoor, observant and be alert.		
4	Avoid taking shelter near old or damaged buildings or near tress.		
5	All doors and windows to be shut.		
6	Avoid the top floor of buildings. Stay close to ground floor.		
7	Close the visitors' gate.		
8	Occupy pre-determined post for controlling security of installation.		
9	Call up additional help from Barracks.		
10	Ensure that unauthorized persons/vehicles do not enter the gate.		
11	Provide security men for firefighting & rescue.		
12	Arrange for transport of higher authorities to the terminal.		
13	Transport vehicles would be provided near emergency control center.		
14	Depute security guards for controlling traffic at scene of disaster.		
15	Produce a list of port staff on duty in co-ordination with time office.		
16	Ensure availability of security men at gates so that they can lead authorities to disaster site.		

17	Ensure that non-essential persons do not crowd affected area.		
18	Instruct all drivers to take shelter at canteens (concrete buildings).		
19	Ensure vehicles are parked at designed parking areas, with wheels are blocked		
20	Close the gate ant stop allowing visitors and transport trucks either inward or out ward.		
21	If caught in open areas during cyclone find a safe shelter immediately		
After E	ffective Period		
1	Assess damage to equipment, building and unsafe condition.		
2	Do not enter in damaged buildings		
3	Use Mobile Phones only for emergency calls		
4	It is advisable to wait for all clear message on PA System/Walki-Talki		
5	Start search operation for Living Things		
6	Do not use any damaged electronic goods		
7	Drink boiled water		
8	Confirm with concerned that storm has subsided, before you move out.		
9	Start restorative measures & repairs.		

	Railway Services - Emergency Preparedness					
	Level - 1 When cyclone is 1000 km away from Mundra					
	Cyclone - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
1	Railway emergency team formed for dealing with the emergency			List Enclosed		
2	Emergency team is in contact with Central Control Room for necessary preparedness.					
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations					
4	People are made aware of do's and don'ts before, during and after Cyclone			Part of training. List of do's and don'ts enclosed		
5	A Railway team is formed to identify potential flying objects (Roofing, sheeting, temp sheds etc.) and secure/remove them.			Team will comprise of Railway Operation and Maintenance.		
6	Connection of all the electrical equipment/appliances are cheked and if not required the same are disconnected. Electrical supply/connection for all the unwanted items are disconnected					
7	All Spare equipment (Locomotive and wagon etc. ) parked at suitable Railway yard.					
8	Portacabins to be secured properly and relocation of electronic equipment from various porta cabins to designated location					

9	Following teams are nominated and tool talked for anticipated emergency action.  A) Loco Pilot B) Loco Maintenance C) Track Maintenance D) Signal Maintenance		
10	Coordination with contractors for making necessary arrangements towards evacuation of labours (Approx.250 No's) Actual evacuation to be done only after port shutdown is declared from CEO office.		List of average manpower in port on normal operation day is enclosed
11	Drinking water (10 bottles of 20 litre) and dry non perishable food available for 30 people (2 days) at Railway control room.		
12	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.		
13	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
14	List and contact details of customers ,contractors and port emergency contacts.		
Railwa	y Services - Emergency team Coordinetor		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers .		
2	To appraise shift Incharge every 12 hrs who in turn will appraise their reportees.		
3	All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.		
Railwa	y Shift Incharge		
1	Railway Shift Incharge to ensure that all the arrangement for securing Assets Like locomotives,Wagons,Static cranes, Mobile Equipment Compressor.		
2	Railway Shift Incharge in coordination with emergency team to appraise the contracted labour supervisor at Railway Yard and Operation/Maintenance areas of the developments.		
3	Keep pictorial records of the sequence of events and preparedness (For Insurance Purpose)		For insurance purpose

Railway Services - Emergency Preparedness					
	Level - 2 When cyclone is 500 km away from Mundra				
	Cyclone - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
1	Railway operations squeezes to bare essential productivity with limited resources to ensure quick rap up.				
2	Emergency team to be in contact with Central Control Room for necessary preparedness.				
3	All Railway operations to stop if wind speed exceeds 30 Knots or heavy rainfall occurs.				
4	All Spare equipment (Locomotive and wagon etc. ) parked at suitable Railway yard.				

5	Following teams are nominated and tool talked for anticipated		
	emergency action.		
	A) Loco Pilot B) Loco Maintenance		
	C) Track Maintenance		
	D) Signal Maintenance		
6	Material & equipment that cannot be moved are covered.		
7	All loose items at Railway Yard and Loco shed are secured.		
8	Nomination of emergency response vehicles (2 No's)		
9	All work permits revoked. Work at height is stopped and not permitted.		
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
Railwa	y Services - Emergency team Coordinator		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers .		
2	To inform all contracted and company staff about cyclone to evacuate their staff.		
3	To take feedback of evacuation process and highlight progress/ issues emergency team.		
4	To check all hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.		
5	All computers/peripherals in MPT & West Basin control to be covered and protected against water ingress due to heavy rain.		
Railwa	y Shift Incharge		
1	Railway Shift Incharge to ensure that all the arrangement for securing Assets Like locomotives, Wagons, Static cranes, Mobile Equipment Compressor.		
2	Railway Shift Incharge in coordination with emergency team to		
	appraise the contracted labour supervisor at Railway Yard and Operation/Maintenance areas of the developments.		
3	Providing other dept. including Safety, Security, etc. mobile equipment and vehicles as per requirement given by them.		
4	Keep pictorial records of the sequence of events and preparedness		For insurance purpose

	Railway Services - Emergency Preparedness				
	Level - 3 A day before when the cyclone is to strike				
	Cyclone - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
Before	Effective Period				
1	All normal operations stopped. Only on emergency operations of evacute of Locomotive and wagon shifting to safe places.				
2	Railway emergency team is handy with VHF sets , Emergency Torches, Rain Coat.				
3	Central control room (Adani House) issues Port closure notice				
4	All equipment (Locomotive &wagons etc. ) to be parked at suitable railway yard.				
5	Transportation arranged for evacuation of staff (employees and contractual staff)				
6	Emergency Kit, Food supplies and drinking water checked and tested.				

7	Communication mediums like VHF, mobile phones and PA systems checked and tested		
8	Only Emergency team members to remain in the port.		
9	2 vehicles stand-by near Railway building and FCC control room.		
10	Following teams are nominated and tool talked for anticipated emergency action.  A) Loco Pilot B) Loco Maintenance C) Track Maintenance D) Signal Maintenance		
11	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
Railwa	y Services - Emergency team Coordinator		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers .		
2	To ensure all contracted and company staff apart from emergency team is evacuated.		
3	To highlight any pending evacuation from port to emergency team.		
4	To be in continues touch with marine control room and Railway control room.		
During	Effective Period		
1	All personnel notified against venturing out during effective period.		
2	All personnel to remain indoor, observant and be alert.		
3	Emergency team members, shift manager and coordination desk personnel t take shelter in their respective control rooms with all hand held VHF, UHF, emergency light and mobile phones.		
4	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
5	All doors and windows of buildings kept shut.		
6	Avoid top floor of buildings. Stay close to ground floor.		
After I	Effective Period		
1	Personnel informed to vacate buildings,Cranes, RTG's and RMQC's. Lifts not to be used for evacuation.		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
4	Assess damage to equipment, resources.		
5	Initiate restart process.		
6	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
7	Communication to be sent to all clients regarding assessed and potential damage to cargo.		
8	Coordinate with port railway for complete inspection of Railway track and system.		
9	Condition shall be reported to CEO and take action to repair and resume operations.		
10	Inspect the Locomotives of the Port, and arrange for trial running to put them into operation.		

	WEST BASIN - EMERGENCY PREPAREDNESS				
	Level 1: When Cyclone is 1000 KM Away From Mur	ndra			
C- N-	Cyclone - Checklist	Vee	NI.	Description	
Sr. No.	Activity	Yes	No	Remarks	
2	HODs have a meeting above the impending emergency steps  Emergency team to be established and should know their roles and			List Enclosed	
	responsibilities.			LIST ETICIOSEO	
3	Emergency team is in contact with Central Control Room and Head West Basin for necessary preparedness.				
4	Ensure that all roads are are free from any blockage.				
5	Emergency team to carry out the following tasks as oer the direction of CEO & Head-West Basin:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations				
6	People are made aware of do's and don'ts before, during and after Cyclone			Part of training. List of do's and don'ts enclosed	
7	A backup team is formed to identify potential flying objects (Roofing, sheeting, temp sheds etc.) and secure/remove them.			Team will comprise of Dry Cargo shift Incharge, MHS Shift Incharge, E&I Shift Incharge, Safety Shift Incharge, Admin Incharge etc.	
8	Connection of all the electrical equipment/appliances are cheked and if not required the same are disconnected. Electrical supply/connection for all the unwanted items are disconnected				
9	All non-operating godowns gates closed.				
10	Cargo secured inside warehouse and Open Plots. Tarpaulin sheets kept ready where ever fertilizer and agri cargo stored. An inventory to cover 3 Lakh MT of cargo to be maintained.				
11	In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.				
12	Minimum equipment (2 pay loaders/2 excavators) to be parked near approach road of D - Yard (receiving side). Rest Spare equipment (2 Pay loaders/2 excavators) to be parked at the open space near the entrance of F&G Yard (discharge side). Rest of the equipment to be parked beyond ARD 8.				
13	All other spare equipment (trailer, hydra, boom-truck, bob-cat etc) to be parked in open space of Workshop.				
14	Portacabins to be secured properly and relocation of electronic equipment from various porta cabins to designated location.				
15	Minimum Numbers of Operators and Drivers to be Remain in a Shift; A) Crane Operators - 3 Nos B) Loader Operators - 4 Nos C) Excavator Operators - 4 Nos. D) Forklift Operators - 1 Nos E) Hydra Operator - 2 Nos F) Trailer Driver - 1 Nos G) Utility Drivers - 4 Nos H) Bus Drivers - 3 Nos I) JLG Operator - 1 Nos.				

16	Coordination with labour contractors for making necessary arrangements towards evacuation of labours, Drivers, Surveyors and Equipment Operators and Employees working at West Basin. Actual evacuation to be done only after port shutdown is declared from CEO office.	Considering full operation (all berths are occupied, Both WLS are working, 4 point of TLS are working, Maximum stacking & Reclaiming) see the sheet of Details of Routine Men-power at West Basin.
17	Drinking water (20 bottles of 20 litre) and dry non perishable food available for minimum 60 people (2 days). However the quantity shall be changed with respect to the staff to be deputed at West Basin during emergency after finalization with respective HODs and Head-West Basin.	
18	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.	
19	Emergency team in continuous contact with other emergency services (such as Safety, Fire, Security, Other Services)	
20	List and contact details of customers, contractors and port emergency contacts to be available.	
21	All Individual Section Incharge have to get updated news frequently and the same to be communicated to contract agencies and other outsiders (i.e. surveyors, vendors, men-power providing agencies, transporters, coal customers etc).	
22	No visitors will be allowed.	
	al Control Room/Marine Control Room	
	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers.	
2	To appraise jetty/backup and WLS-TLS shift incharge [MHS, E&I and DC] every 12 hrs who in turn will appraise their reportees.	
3	To intimate or communicate any emergency to the operation, emergency departments, engineering services and other services.	
Shift	Incharge of Individual Sections	
	All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.	
2	MHS Shift Incharge has to ensure that all the arrangement for securing Cranes, Staker Reclaimer and other Equipment is in order.	
3	DC Shift Incharge has to ensure that all the Equipment (i.e. payloader, excavator) inside the vessel or jetty has been removed.	
4	DC - MHS Shift Incharge has to ensure that pota-cabins on jetty and back-up either properly secured or removed at safe place.	
5	All Shift Incharge of Individual Section are to be in coordination with emergency team to appraise the contracted labour supervisor at jetty and backup of the developments.	
6	Keep pictorial records of the sequence of events and preparedness (For Insurance Purpose)	
7	E&I Shift Incharge to ensure that all temporary connections have been removed and isolation of equipment/machineries wherever required.	
8	Admin Incharge and Individual Incharge to ensure that all vehicles are fully charged with fuel and have sufficient drivers.	

9	DC Incharge has to remain in touch with DC Head and Head- West Basin in case to hold the operation.		
10	Security Incharge to ensure that all the routes are free from traffic and to control the vehicular movement.		
11	DC Incharge to ensure that the approaches within the yards are free from cargo.		
12	DC Incharge to be in continuous with the Railway for rake operation control and with transporters for control of dumpers/trucks.		
13	ES & MHS Shift Incharge to be in touch with the supervisors of contract agencies working under Engineering Services for instructing and guiding them with respect to emergency. Also for evacuation.		
14	Safety Shift incharge will also intimate to the PMC Safety and officials for any information with respect to emergency and also for evacuation (if required).		
15	DC incharge must be touch with contract agencies (supervisors) and customers for giving information to them regarding emergency and to tak action with accordingly. Also for evacuation. all visitors will be stopped.		
16	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]		

	WEST BASIN - EMERGENCY PREPAREDNESS			
	Level 2: When Cyclone is 500 KM Away From Mur	ndra		
	Cyclone - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	HODs have a meeting above the impending emergency steps			
2	The operations squeezes to bare essential productivity with limited resources to ensure quick rap up.			
3	Emergency team to be in contact with Central Control Room for necessary preparedness.			
4	All jetty operations to stop if wind speed exceeds 16 meter/second or heavy rainfall occurs. This is with respect to the GSU and Stacker Reclaimer operations.			
5	Ensure all temporarty things have been reomved.			
6	all visitors will be stopped.			
7	Drinking water (20 bottles of 20 litre) and dry non perishable food available for minimum 60 people (2 days). However the quantity shall be changed with respect to the staff to be deputed at West Basin during emergency after finalization with respective HODs and Head- West Basin.			
8	Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.			
9	Minimum equipment (2 Pay loaders/2 excavators) to be parked near approach road of D - Yard (Receiving side). Rest Spare equipment (2 Pay loaders/2 excavators) to be parked at the open space near the entrance of F&G Yard (Discharge side). Rest of the equipment to be parked beyond ARD 8.			
10	All other spare equipment (trailer, hydra, boom-truck, bob-cat etc) to be parked in open space of Workshop.			

11	Minimum Numbers of Operators and Drivers to be Remain in a Shift; A) Crane Operators - 3 Nos B) Loader Operators - 4 Nos C) Excavator Operators - 4 Nos. D) Forklift Operators - 1 Nos		
	E) Hydra Operator - 2 Nos F) Trailer Driver - 1 Nos G) Utility Drivers - 4 Nos H) Bus Drivers - 3 Nos		
	I) JLG Operator - 1 Nos.		
12	Material & equipment that cannot be moved are covered.		
13	All loose items on jetty/backup are secured.		
14	Nomination of Emergency response vehicles [5 No's (ERT-1, 2 Adani Utilities-2, FLS Utility-2)]		
15	Vessels at Berth prepared for emergency cast off.		
16	All work permits revoked. Work at height is stopped and not permitted.		
17	Emergency team in continuous contact with other emergency services (such as Safety, Fire, Security, Other Services)		
18	All Individual Section Incharge have to get updated news frequently and the same to be communicated to contract agencies and other outsiders (i.e. surveyors, vendors, men-power providing agencies, transporters, coal customers etc).		
Centra	al Control Room/Marine Control Room		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs to all external customers.		
2	To inform all contracted and company staff about cyclone to evacuate their staff.		
3	To take feedback of evacuation process and highlight progress/ issues emergency team.		
4	To check all hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.		
Shift I	ncharge of Individual Sections		
1	All computers/peripherals in West Basin to be covered and protected against water ingress due to heavy rain.		
2	All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency in case of total power failure.		
3	MHS Shift Incharge has to ensure that all the arrangement for securing Cranes, Staker Reclaimer and other Equipment is in order.		
4	DC Shift incharge has to ensure that all the equipment (i.e. payloader, excavator) inside the vessel or jetty has been removed.		
5	DC - MHS Shift incharge has to ensure that porta-cabins on jetty and back-up either properly secured or moved to a safe place.		
6	All Shift Incharge of Individual Section are to be in coordination with emergency team to appraise the contracted labour supervisor at jetty and backup of the developments.		
7	Keep pictorial records of the sequence of events and preparedness (For Insurance Purpose)		
8	E&I Shift Incharge to ensure that all temporary connections have been removed and isolation of equipment/machineries wherever required.		
9	Admin Incharge and Individual Incharge to ensure that all vehicles are fully charged with fuel and have sufficient drivers.		

10	DC Incharge has to remain in touch with DC Head and Head-West Basin in case to hold the operation.		
11	Security Incharge to ensure that all the routes are free from traffic and to control the vehicular movement.		
12	DC Incharge to ensure that the approaches within the yards are free from cargo.		
13	DC Incharge to be in continuous with the Railway for rake operation control and with transporters for control of dumpers/trucks.		
14	ES & MHS Shift Incharge to be in touch with the supervisors of contract agencies working under Engineering Services for instructing and guiding them with respect to emergency.  Also for evacuation.		
15	Safety Shift Incharge will also intimate to the PMC Safety and officials for any information with respect to emergency and also for evacuation (if required).		
16	DC Incharge must be touch with contract agencies (supervisors) and customers for giving information to them regarding emergency and to tak action with accordingly. Also for evacuation.		
17	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]		

	WEST BASIN - EMERGENCY PREPAREDNESS				
	Level - 3: A Day Before When the Cyclone is to Strike				
	Cyclone - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
Before	Effective Period				
1	HODs have a meeting above the impending emergency steps				
2	All normal operations stopped. Only emergency operations (securing of GSU cranes, Security of Stacker & Reclaimers, Securing the mobile hoppers, Shifting of ground equipment i.e. payloader-excavator-skid loader-hydra-dumpers-trailer-sweeping machines-JLG-Boom truck etc, boom resting of MHCs) to be continued.				
3	Removal of staff from working on heighted structure or nearby seaside.				
4	Both the Control Rooms must have VHF sets with sufficient batteries, Emergency Torches, Rain Coat, Life Jackets, routine PPEs etc).				
5	Central control room (Adani House) issues Port closure notice				
6	All equipment (Pay loaders/excavators etc) to be parked at ARD 8.				
7	All pota-cabins to be secured with fixed heavy structures.				
8	Transportation arranged for evacuation of staff (employees and contractual staff)				
9	Emergency kit, food supplies and drinking water checked and tested.				
10	Communication mediums like VHF, mobile phones and PA systems checked and tested				
11	Only emergency team members and minimum staff to be remain in the port.				
12	Minimum equipment (2 pay loaders/2 excavators) to be parked near approach road of D - Yard (receiving side). Rest spare equipment (2 Pay loaders/2 excavators) to be parked at the open space near the entrance of F&G Yard (discharge side). Rest of the equipment to be parked nearby ARD 8.				

13	All other spare equipment (trailer, hydra, boom-truck, bob-cat etc) to be parked in open space of Workshop. In case of extreme situation,		
	the equipment to be kept inside the workshop.		
14	Minimum Numbers of Operators and Drivers to be Remain in a Shift;		
	A) Crane Operators - 3 Nos B) Loader Operators - 4 Nos		
	C) Excavator Operators - 4 Nos		
	D) Forklift Operators - 1 Nos		
	E) Hydra Operator - 2 Nos F) Trailer Driver - 1 Nos		
	G) Utility Drivers - 4 Nos		
	H) Bus Drivers - 3 Nos I) JLG Operator - 1 Nos		
15	Emergency team in continuous contact with other emergency		
	services (QHSE, Fire, Security, Marine and others)		
16	In case of extreme condition, only minimum staff will remain in port		
	(upon seeing the condition). All the mobile equipment to be parked beyond ARD 8 (considering unmanned and open area).		
Centra	I Control Room/Marine Control Room		
1	To circulate cyclone bulletins (issue by Martine Control) every 12 Hrs		
	to all external customers .		
2	To ensure all contracted and company staff apart from emergency team is evacuated.		
3	To highlight any pending evacuation from port to emergency team.		
4	To be in continues touch with POC.		
During	Effective Period		
1	All personnel notified against venturing out during effective period.		
2	Elevators to be electrically isolated.		
3	All personnel to remain indoor, observant and be alert.		
4	Emergency team members, Shift Incharge and coordination desk personnel take shelter in their respective control rooms with all hand held VHF, UHF, emergency light and mobile phones.		
5	People (Employees and Contractors) advised not to take shelter near old or damaged buildings or near tress.		
6	No personnel should be on open height structure as well as equipment (i.e. GSU, MHC, Stacker-Reclaimer).		
7	All doors and windows of buildings kept shut.		
8	Avoid top floor of buildings. Stay close to ground floor.		
9	Ensure the warden of the individual buildings are present.		
After E	ffective Period		·
1	Take headcount of all the personnel. (FCC, Backup, Steel Yard, Jetty & Tug berth building)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured stating the type and extent of injury.		
4	Assess damage to equipment, resources and cargo.		
5	Initiate restart process.		
6	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
7	Communication to be sent to all clients regarding assessed and potential damage to cargo.		

Pre-As	ssessment Checklist [Preparedness in Early Stage]		
1	Ensure that all the important document are preserved at a proper place.		
2	Enusure that Emergency team has been prepared along with Roles & Responsibility.		
3	Ensure each representative of each department has a substitute (Dry Cargo, E&I, MHS SR, MHS Conv, MHS GSU, MHS WLS TLS, MHS Utility, ES CWS, ES Civil, Fire, Safety, Security, Marine, Railway, Admin, Store, IT etc).		
4	Ensure that list of Emergency Contact Numbers are displayed.		
5	Ensure that all employees, contractors/vendors/visitors/other customer are aware of emergencies and preparedness.		
6	Ensure that Emergency items contains following items; torches, ropes, wires, tarpaulins, plastic sheets, tool kit, duct tapes, assorted gears, first aid box, sand bags		
7	Ensure proper communication with the POC for further information/ updates/news of respective emergency from disaster authority/Govt agencies.		
8	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]		

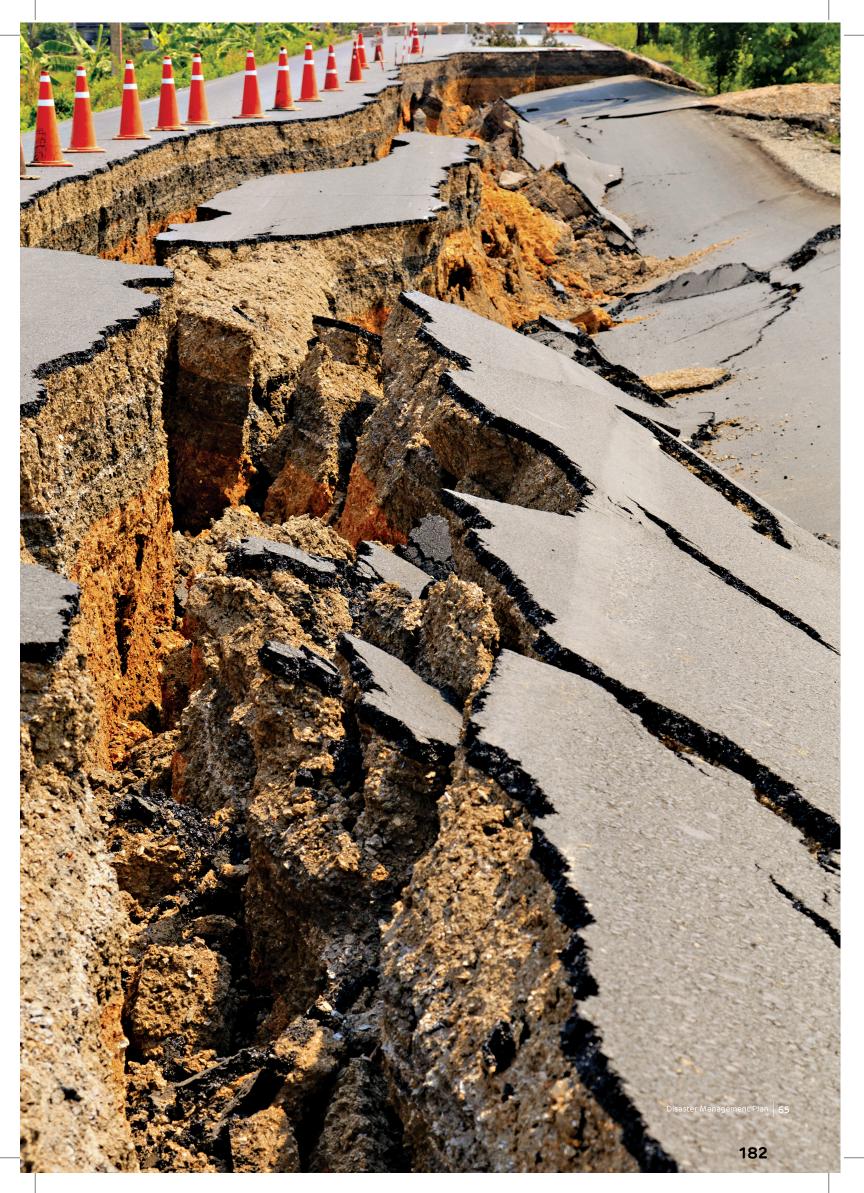
	QHSE&F - Emergency Preparedness			
	Emergency Response.			
	Cyclone- Checklist			
Sr. No.	Activity	Yes	No	Remarks
Induct	ion and Training Program.			
1	Arrange indduction /training program for all personnel on emergency preparedness $\&$ its awareness.			Part of Induction/ training program.
2	All concerned employees and contractual staff informed about the assembly point & evacuation locations.			
3	To arrange emergency drill for dealing with such emergency.			Part of Induction/ training program.
4	To arrange necessary training for emergency response team/ CMG/First Aid Team/Medical Team/Fire rescue team to deal with emergency. (Ensure availability of trained rescue team & necessary equipments all the time)			
5	Arrange training for all QHSE&F team member for emergency response & clear cut understanding of their cruisial roles & responsibility during emergency.			
6	To prepare & check effectiveness of Emergency Response Plan/ Disaster Management Plan.			
7	To do proper co-ordination with all concern department for maintaining necessary emergency response kit & necessary aids in required inventory or make identified supply of the same during declaration of such emergency.			
8	To maintain close co-rdination with mutual aid for dealing with emergency.			
During	Effective Period			
1	Assist CEO/Executive Director (Corp. Affairs). as instructed.			
2	Co-ordination with respective HOD/HOS with respect to emergency actions.			

3	Ensure necessary action through CMG. Provide necessary assistance to CMG.			
4	Assist in evacuation of all personnel except key personnel.			
5	Provide HSE & F facilities (Assist for Rescue, Evacuation, and other Necessary Arrangement).			
6	Set up casualty collection centre and arrange first aid posts.			
7	Arrange enough stock medicines, antidotes, oxygen, stretchers,			
8	Keeping in mind that Road and Rail connectivity may be cut off for required period of time.			
9	Arranges additional medicine and equipment as required.			
10	Arrange a fully equipped Ambulance in ready state.			
11	Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment.			
12	To do immediate co-ordination to mutual aids for necessary help/ support if required.			
After E	Effective Period			
1	Assist to CEO/Executive Director (Corp. Affairs).			
2	Assess damage (human) and send for further treatment.			
3	Assess the property damage and prepare report.			
4	Assist all HODs with restoration.			
5	Perform necessary rescue through rescue team where needed.			
6	Check each & every effecetd area & arrange for necessary HSE& F actions as require.			
7	After completion of all rescue, restoration work. check the effectiveness of executed emergency plan & take necessary require corrective action to update the plan & necessaary facilities if required.			
8	To motivate the emergency rescue team, CMG $\&$ all concerns , who have perform well during emergency.			

Disaster Management Plan for

# Earthquake





# Earthquake

#### Introduction

It is fundamental to effective earthquake preparedness that maximum preventive measures be taken before an earthquake occurs. This includes building and facilities construction, storage planning and practices, and education of PORT personnel of appropriate actions when an earthquake occurs. This document deals with policies and procedures to be followed in the event of an earthquake.

Not all earthquakes are of the same magnitude. Further, the effects of an earthquake (including structural damage) may vary significantly from one area to another. This may be due to differences in distance from the earthquake's epicentre, differences in geology, differences in topography, or differences in building construction. For these reasons, at the occasion of an earthquake, it will be incumbent on responsible parties at each site to determine the level of response, which is appropriate for their site. For our Initial Assessment purposes earthquakes will be categorized at three levels:

#### Level I

A slight tremor is felt. Window shades swing and perhaps some small objects fall from desks, etc. It appears unlikely that there is significant damage.

#### Level II

The shaking is quite noticeable. Pictures are askew and things topple from desks and bookshelves. Some windows may crack. Damage, though noticeable, appears to be minor in nature

Note: A Level II earthquake calls for action. Even though there may appear to be little or no damage there may be problems about which you may not be immediately aware (such as broken gas lines, damaged wiring, structural damage, etc.). Therefore, a Level II earthquake calls for an orderly evacuation of the building until inspections indicate it is safe to re-enter. In this case the senior responsible person (one who would be the Site Incident Commander in the event of a Level III earthquake) should conduct an inspection of the building and its systems to confirm a safe environment.

#### Level III

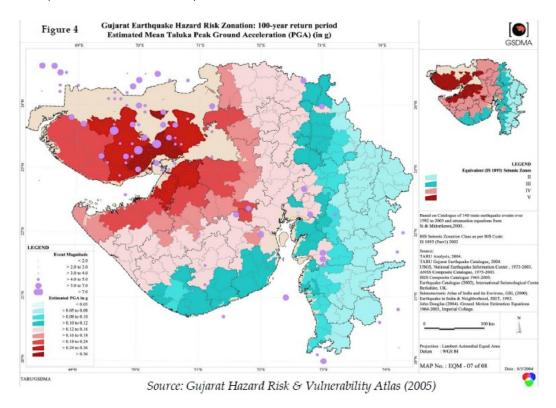
This is the "big one." It may be difficult to walk. Items fall and some bookcases, etc. topple. Power lines sway violently. There is structural damage to buildings Most earthquakes will fall in the Level I category. In the event of a Level I quake stay calm and communicate with those around you. The facility manager or supervisor should advise the Port Deputy Conservator of the event and the initial assessment. Please keep in mind, however, that this could be the precursor of a larger quake. The likelihood of this is not great but the possibility should not be dismissed. This would be a good time to search your work area for heavy or dangerous objects that could cause injury should they fall in a greater tremor.

#### Important Information

Regular power supply may be cut off for a considerable time if the earthquake is severe, due to the failure of transmission line. Both road and railway connectivity may be cut off for some time. Local villagers may try to forcibly enter port and there may not be any local admin/police to help the port authorities. There may be unpredicted fall of buildings, structure, towers, transmission lines, heavy cranes, silos, go down, tanks, chimney etc. at unpredicted location. As Mundra is falling under seismic zone-v, all essential amenities and sustenance for port, like offices, emergency assembly points, etc... needs to be always in place.

The seismic zoning map of India the Gujarat region is divided into three zones. Kutchh region (about 300km x 300km) is assigned zone v where earthquakes of magnitude 8 can be expected. A belt of about 60-70km width around this zone covering areas of North Saurashtra and areas bordering eastern part of Kutchh are assigned zone-iv where intensity viii can be expected mainly due to earthquakes in Kutchh and some local earthquakes along north Kathiawar fault in northern Saurashtra. Rest of Gujarat lies in zone iii where intensity vii can be expected due to moderate local earthquakes or strong Kutchh earthquakes.





#### Useful web sites for earthquake information:

- www.imd.gov.in
- www.gsdma.org
- www.isgn.gov.in
- · www.npmoc.navy.mil

Generally port installations & residential township are designed, based on the following criteria

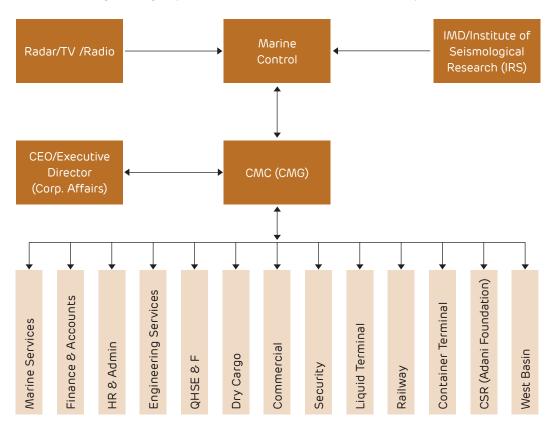
All structures have been constructed as per IS 1893:1984 (Criteria for Earthquake Resistant Design of Structures), IS 13920:1993 Ductile Detailing of Reinforced Concrete Structures Subjected to Seismic Forces – Code of Practice , IS 4326:1993 Earthquake Resistant Design and Construction of Buildings - Code of Practice

#### Crisis Management Group

- Crisis Management Group (CMG) will be a permanent body to deal with all crisis, will be formed by CEO.
- On feeling heavy tremors of an earthquake (high-richter scale), the Crisis Management Group (CMG) shall meet at the CMC or other convenient place as determined by the CEO.
- CEO Shall appoint departmental HOD/HOS as Coordinator and Convener of the CMG.
- All meetings of the Crisis Management Group (CMG) shall be conducted in the CMC.
- All HODs/HOS shall be members of CMG, in absence of the CEO, Executive Director (Corp. Affairs) shall be the Chairman of CMG and Coordinator shall be the convener.
- CEO may declare emergency so that all emergency staff and officers shall be at their duty stations and congregate at their designated stations for taking review of the situation and for implementing orders received from their respective HODs, who are CMG members.
- No emergency team member shall leave his station during the emergency period.
- CMC shall be manned round the clock and shall be headed by the CEO or someone nominated by CEO. He shall be at least of the rank of HOD.
- All situations of the earthquake and recovery shall be reviewed by the CEO/Executive Director at CMC, with the concerned CMG members.

#### Crisis Management Group - Responsibilities

All HODs and HOSs shall be members of crisis group for earthquake management and post restoration activities in addition to members nominated by CEO as per the situation. The crisis management group shall be active till the full restoration of port activities.



#### Commands Structure/Designated Persons

- The following table shows the command structure for each department.
- In case the officer in the first column is not available, the second in command automatically takes over.
- Designation of the first column is the HOD and second column is the successor.
- In case of absence of both, the senior most officers of the dept. to assume charge.

Sr.No.	Head	Successor
1	CEO	Executive Director (Corp. Affairs) (Corporate Affairs)
2	HOD (Marine)	HOS (Marine)
3	HOD Finance	HOS Finance
4	HOD (HR & Admin)	HOS (HR & Admin)
5	HOD (ES)	HOS (ES)
6	HOD (QHSE & F)	HOS (QHSE & F)
7	HOD (Dry Cargo)	HOS (Dry Cargo)
8	HOD (Commercial)	HOS (Commercial)
9	HOD (Security)	HOS (Security)
10	HOD (Liquid)	HOS (Liquid)
11	HOD (Railway)	HOS (Railway)
12	HOD (Container Terminal)	HOS (Container Terminal)
13	HOD (West Basin)	HOS (West Basin)
14	HOD (CSR-Adani Foundation)	HOS (CSR – Adani Foundation)

<sup>\*</sup> Roles of HODs [West basin (ES & DC)] and HODs [MPT (ES &DC)] are same. HODs [West Basin] will assist the Head – West Basin.

#### Action Plan

- A. Actions During Earthquake
- B. Actions Post-Earthquake: Recovery, Insurance, Restoration & Relief
- C. Checklists for Earthquake.

## A Actions – During Earthquake

For an event demanding immediate evacuation:

#### A. Evacuate the vicinity through the nearest safe exit.

- 1. Use main fire exits if possible.
  - If exits are obstructed, use extreme caution when evacuating through any other means available.
  - Do not use elevators
- 2. Proceed at a walking pace. Do not run.
- 3. Those familiar with this evacuation plan are encouraged to see that visitors, vendors, tenants, etc. who may not be familiar with procedures are not left behind.
- 4. Assist those unable to use stairs (See below.)
- 5. Personnel are encouraged to take VHF with them as they evacuate.
- 6. All the people must be assembled at designated assembly points.
- 7. Follow the emergency exit signage.

#### B. Evacuation in anticipation of a potential hazard

- 1. Shut down computers, machinery, etc.
- 2. Move out in an orderly fashion.
- 3. Wnsure that everyone has vacated the building.

### B Post-Earthquake: Recovery, Insurance, restoration & Relief

The purpose of post earthquake activity is to resume port operation as early as possible.

- → Site-main Controller
- CEO/Executive Director (Corp. Affairs)
- a. Collect the details of damages if any from HODs immediately.
- Ask all members of the CMG to immediately inspect their area of responsibility, along with their subordinate staff and officers and report their finding within short period of time.
- Ask the HODs to submit preliminary estimate immediately, followed by detailed estimate.
- d. HOD Marine to be asked to complete the survey of berth as quickly as possible, to resume shipping activity.
- e. All required activities to resumePort operations are to be discussed and finalized with HODs.
- f. A department wise detailed programme is to be drawn up to resume normal Port operations.
- g. Regular follow up to complete the work as provided in the checklist is to be done.
- h. Emergency powers for procurement and award of contract must be evoked.
- i. HODs are required to submit the details and programs immediately.
- j. Reports on condition of Tugs and other Port crafts, ship unloader, ship loaders, HMCs and other auxiliary equipment after thoroughly inspection by HOD.
- k. All other cargo handling equipment like container handling equipment if any shall be inspected by HOD and detailed report to be obtained..
- I. MCCs, Stacker Reclaimers, Wagon tippler and Wagon tippler tunnel, Conveyor belts, conveyor galleries, Locomotives, Rail load out system etc. shall also be inspected carefully by HOD and reports to be obtained.
- m. Condition of Liquid berth and equipment and SPM Condition of all civil structures, Roads and water supply system to be checked.
- n. Ask all HODs to submit details to HOD Finance to process insurance claims.
- o. Coordinate the CSR activities.
- p. Keep contact with District Collector and local state Govt. official and offer all possible help for rehabilitation the same to corporate office.
- q. Inform all stakeholders regarding restoration of the port operation and inform the same to corporate office.

 Incident Controller: HOD - Marine (Marine & SPM)

- a. Marine HOD shall immediately arrange for survey of berth and inform the condition to CEO/COO. Who in turn inform the corporate office and stake holders.
- b. Restoration work if any may be done in association with Head ES.
- c. Shall check the navigational aid system and take action or rectifications if required
- d. Mobilise diving personnel and equipment.

 Incident Controller: HOD - ES (MPT & WB)

- a. Shall immediately depute the electrical engineer to get an update of power supply.
- In case of power outage, coordinate with Electrical supply authorities for restoration of power supply
- c. If power is available, and MCCs are O.K, charge MCCs one by one after thorough checking.
- d. Depute the same team which has parked the equipment to release the equipment for operation after removing all blockages.
- e. If any equipment is found to be damaged report the matter to higher ups and take action for early repair or decommissioning.
- Equipment can also can be charged one-by-one, after charging the MCCs, after obtaining written clearance from the engineer in charge.
- g. Ensure that the equipment electrical system is perfect before charging. Keep records of all measurements.
- h. Inspect all electrical and mechanical systems thoroughly before trial run.
- Damaged street lights and damaged internal lighting system to be repaired and re-commissioned.
- Take trial run of conveyors.
- k. Ensure all DG sets work till normal power supply is resumed.
- Inspect the water supply system and take all action to establish normal water supply immediately.
- m. In case of any difficulty bring it to the notice of CEO/Executive Director (Corp. Affairs).
- n. Drainage system if damaged should be repaired immediately.
- o. Inspect all roof tops and if any roof is broken, take action for replacement.
- Coordinate with Admin/HR for clean-up activities.
- q. HODs of West Basin will assist the Head West Basin.
- r. Initiate restart processes.

Primary Support Team: HOD - HR & Admin

- a. Shall take up relief camp work for port colony if required.
- b. Take all actions necessary to shift the officers and staff of the port.
- c. Coordinate with civil department to clean up the colony and premises.
- d. Arrange for provisions till normalcy is established.
- e. Coordinate food and drinking water arrangements for people on resumption of work to be coordinated.
- Arrange to lift out all the damaged materials generated during earthquake from the site and dispose it at proper place with the help of HSE department.

Primary Support Team: HOD - QHSE & F

- a. Assist to CEO/Executive Director (Corp. Affairs).
- b. Assess the damage (human) and sent for further treatment.
- c. Assess the property damage and prepare report in consultation with concern department.
- Assist all HODs with restoration.
- Suggest optimal strategies for emergency isolation of damaged equipment, emergency transfer of material etc.

- f. Recommends appropriate procedure to isolate damaged units without introducing new hazard.
- Arrange portable lighting arrangement to the accident site in consultation with Admin and Commercial.
- h. Arrange for environmentally safe disposal of port emergency generated effluent/waste.
- i. Updating DMP.
- SeconderySupport Team: HOD – Commercial
- Shall inspect all stores and estimate loss or damages if any and take immediate action for re-equipping the stores.
- Coordinate with all HODs for requirements of consumables and spares.
- Discuss with CEO/Executive Director (Corp. Affairs) to ease norms of procurement for immediate supply of stores.
- → Incident Controller: HOD – Railway
- Shall depute teams of staff to check the condition of all railway track and track electrification and signalling system.
- Contractor shall be instructed to depute adequate numbers of teams to survey the entire railway line and system, and submit feedback within the shortest possible time (fix the time period for feedback)
- c. Condition shall be reported to CEO/Executive Director (Corp. Affairs) and take action to repair and resume operations.
- d. Any help for repair and decommissioning may be taken from HOD ES.
- e. He shall also inspect the Locomotives of the Port, and arrange for trial runs before putting them into operation.
- → Incident Controller: HOD – Operations [DC (MPT & WB), CT, LT]
- Shall inspect all areas along with concern HODs for estimate loss and damages if any. Prepare report and submit to CEO.
- b. The condition of stored hazardous/toxic cargo to be inspected along with HSE and immediate action, as advised by HSE to be taken up.
- c. Discuss with CEO/Executive Director (Corp. Affairs) and HODs for resumption of partial or full operations.
- d. Take all actions for early resumption of Port activities.
- e. Coordinate with HOD Marine to resume shipping operations.
- f. Coordinate with HOD Finance for insurance claims.

→ Secondary support team: HOD – Finance & Accounts

#### Insurance Claims

- a. All HODs to prepare loss and damage list and estimate the costs of rectification and submit the same to HOD - Finance, who is the nodal officer for claiming insurance, with copies to CEO/ Executive Director (Corp. Affairs). The details shall contain photograph also.
- Shall coordinate with insurance company to arrange the surveyor as quickly as possible, so that rectification work can start immediately.
- c. May coordinate with all HODs to prepare additional documents if required.
- d. May collect the details of claims with supporting documents from HODs in a time frame to be fixed by him for early settlement of all claims.
- e. Timely submission of insurance claims necessary for claiming losses.

Primary Support Team: **HOD** – Security

The road and railway traffic from and to the port may be disrupted due to the earthquake.

- a. Shall be well versed with all road communication of the area.
- b. Shall coordinate with local administration/State administration to clear the roads in consultation with Corporate Affairs.
- c. Port may also be required to engage men and machine to clear the road blockages if any.

 Secondary Support Team: CSR HOD - Adani Foundation [General Responsibilities]

The company has a social responsibly to save the life and property of the people living in the peripheral areas. This work involves the following activities. These activities may be done in association with local administration.

- a. Request them to move to safer places.
- b. Moving to earthquake relief centre is the best option. If the same is not available nearby, they may be asked to move to permanent structures available nearby. Provide them all assistance for evacuation.
- c. Provide the villagers adequate dry food (chuda, gudo, biscuits, baby food etc.) items and potable water in adequate quantity.
- d. Services of medical team may be extended to the peripheral villages with necessary medicines and first aids.
- e. Advise them to remain calm.
- f. After the earthquake there may be shortage of food and water. Water has to be provided for their basic needs till normalcy is established.
- g. Start community Kitchens to provide them with food.
- h. Help in rehabilitation and resettlement of all displaced people in coordination with local Govt. agencies and NGOs.

# **Checklist:**

- Checklist for CEO/Executive Director (Corp. Affairs).
- · Following Checklists prepared which shall be used at the time of declaration of Earthquake.

Checklist – 1	CEO/Executive Director (Corp. Affairs)
Checklist – 2	Marine Services
Checklist – 3	Engineering Services
Checklist – 4	Dry Cargo
Checklist – 5	Liquid Terminal
Checklist – 6	Container Terminal
Checklist – 7	HR & Admin
Checklist – 8	Security
Checklist – 9	Railway Services
Checklist – 10	West Basin
Checklist – 11	QHSE

	CEO - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
During	Effective Period			
1	Alarm to be sounded and announcement to be made on PA system. All operations to be stopped			
2	Personnel to be informed to vacate buildings, godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation. Personnel assembled at nearest assembly point for Earthquake.			
3	All departments told to carry out a head count.			
4	People must be advised to maintain calm and reassure others.			
After	Effective Period			
	Announcement to be made declaring end of emergency on PA system and other means of communication.			
2	Advise emergency teams to carry out on-field assessment and head counts.			
3	Launch search and rescue operations for missing personal.			
4	Personnel to be advised not to enter damaged buildings/structures.			
5	Get reports on casualities and injuries to personnel. Attend to injured persons and give them first aid, if possible, inform the hospital if anyone is injured, stating the type and extent of injury.			
6	Carry out assessment of damage to property and all high value assets within the port including ships.			
7	Reports to be consolidated with photographs from all departments for insurance claims.			
8	Examine cargo pipelines, fire water lines, electrical underground cable & system, building & godown walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing			
9	Initiate Gradual resumption of port operation.			

	Marine Services - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part o	f Regular Training and Inspections			
1	All on-roll staff and contractual employees to be given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			
2	Training to be given to employees on how to disconnect electric and water supply in their buildings.			
3	Heavy objects, glasses to be kept in lower levels. To be inspected during safety rounds every quarter.			
4	Heavy objects must not be kept on the parapet, window, balcony sills.			
During	Effective Period			
1	Personnel to be informed to vacate buildings, godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation.			
2	People to be advised to maintain calm and reassure others.			
3	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipments.			

4	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
5	When outside, move away from buildings and utility wires.		
6	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
7	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.		
8	DPC, MMPT Marine Control Officer and data entry operator to assemble near jetty barrier with all hand held VHF, UHF, emergency light and mobile phones.		
9	Announcements to be made instructing employees to avoid taking shelter near buildings, godowns, high rise equipments, stacked containers and trees.		
After	Effective Period		
1	DPC, MMPT control officer & data entry operator to return back to Marine Control Room.		
2	Take headcount of all the personnel.		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
5	Assess damage to equipments, building and for any unsafe condition.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Initiate restart process.		

	Engineering Services of MPT - Emergency Preparedne	ess		
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part o	f Regular Training and Inspections			
1	All on duty staff and contractual employees are given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			Training program
2	People are made aware about evacuation plan in case of emergency.			Training program
3	People are made aware of do's and don'ts before, during and after earthquake.			Part of training. List of do's and don'ts enclosed
4	Heavy objects, glasses kept in lower levels. To be inspected during safety rounds every quarter.			
5	Heavy objects must not be kept on the parapet, window, balcony sills.			
During	Effective Period			
1	Personnel to be informed to vacate buildings, godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation.			To be made part of emergency drill.
2	Announcements to be made to avoid taking shelter near buildings, godowns, high rise equipment, stacked containers and trees.			To be made part of emergency drill.

3	People must be advised to maintain calm and reassure others.		
4	All operations to be stopped and personnel moved to a safe location from where they can be evacuated.		To be made part of emergency drill.
5	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipment, electrical lines and trees.		
6	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
7	When outside, move away from buildings and utility wires.		
8	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
9	FCC control room, DG House/Substation & Workshop personal to assemble at the nearest assembly point or rescue point respectively with all hand held VHF, emergency lights and mobile phones.		To be made part of emergency drill.
Afte	r Effective Period		
1	FCC control and Coordination desk to return to their respective control rooms.		
2	Take headcount of all the personnel. (FCC, backup, steel yard, jetty & tug berth building)		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
5	Assess damage to equipment and building to ensure safe working conditions.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Initiate restart process.		
8	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
9	Communication to be sent to all clients regarding assessed and potential damage to cargo.		

	Dry Cargo - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part of	Regular Training and Inspections			
1	All on duty staff and contractual employees are given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Stat ion.			Training program
2	People are made aware about evacuation plan in case of emergency.			Training program
3	People are made aware of do's and don'ts before, during and after earthquake.			Part of training. List of do's and don'ts enclosed
4	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.			To be placed with dry cargo coordination desk and FCC control room
5	Training given to employees on how to disconnect electric supply in their buildings.			

6	Heavy objects, glasses kept in lower levels. To be inspected during safety rounds every quarter.		
7	Heavy objects must not be kept on the parapet, window, balcony sills.		
During	Effective Period		
1	Personnel to be informed to vacate buildings, godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation.		To be made part of emergency drill.
2	Announcements to be made to avoid taking shelter near buildings, godowns, high rise equipment, stacked containers and trees.		To be made part of emergency drill.
3	People must be advised to maintain calm and reassure others.		
	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.		To be made part of emergency drill.
5	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipment, electrical lines and trees.		
6	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
7	When outside, move away from buildings and utility wires.		
8	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
9	FCC control and Coordination desk personal to assemble near line and jetty barrier respectively with all hand held VHF, emergency lights and mobile phones.		To be made part of emergency drill.
After E	ffective Period		
1	FCC control and Coordination desk to return to their respective control rooms.		
2	Take headcount of all the personnel. (FCC, backup, steel yard, jetty & tug berth building)		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
5	Assess damage to equipment and building to ensure safe working conditions.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Initiate restart process.		
8	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
9	Communication to be sent to all clients regarding assessed and potential damage to cargo.		

	Liquid Terminal - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part of	Regular Training and Inspections			
1	All on-roll staff and contractual employees to be given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			
2	Training to be given to employees on how to disconnect electric and water supply in their buildings.			

3	Heavy objects, glasses to be kept in lower levels. To be inspected during safety rounds every quarter.		
4	Heavy objects must not be kept on the parapet, window, balcony sills.		
During	g Effective Period		
1	Personnel informed to vacate Liquid terminal buildings.		
2	People to be advised to maintain calm and reassure others.		
3	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipment.		
4	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
5	When outside, move away from buildings and utility wires.		
6	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
7	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.		
8	Liquid Control Officer and data entry operator to assemble near driver canteen with all hand held VHF, UHF, emergency light and mobile phones.		
9	Announcements to be made to avoid taking shelter near buildings, godowns, high rise equipment, stacked containers and trees.		
After	Effective Period		
1	Control officer & data entry operator to return back to Liquid Control Room.		
2	Take headcount of all the personnel.		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
5	Assess damage to equipment, building and for any unsafe condition.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Initiate restart process.		

	Container Terminal - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part of	Regular Training and Inspections			
1	All onroll staff and contractual employees to be given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			
2	Training to be given to employees on how to disconnect electric and water supply in their buildings.			
3	Heavy objects, glasses to be kept in lower levels. To be inspected during safety rounds every quarter.			
4	Heavy objects must not be kept on the parapet, window, balcony sills.			

During	Effective Period			
1	Personnel informed to vacate buildings, workshops , godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation.			
2	People to be advised to maintain calm and reassure others.			
3	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipments.			
4	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.			
5	When outside, move away from buildings and utility wires.			
6	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.			
7	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.			
8	Shift superintendent, tower controller, Planners, Operators, engineers, checkers and all ITV drivers to assemble away from operation building at emergency assembly point with all hand held VHF, UHF, emergency light and mobile phones.			
9	Announcements to be made instructing employees to avoid taking shelter near buildings, godowns, high rise equipments, stacked containers and trees.			
After E	ffective Period			
	Shift superintendent, tower controller, Planners, Operators, engineers, checkers and all ITV drivers to return back at their respective work place.			
2	Take headcount of all the personnel.			
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing			
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.			
5	Assess damage to equipments and building for any unsafe conditions.			
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.			
	Administration - Emergency Preparedness			
Sc No.	Activity Earthquake - Checklist	Yes	No	Remarks
	Regular Training and Inspections	<u> </u>	_ 140-	Remarks
1	All on-roll staff and contractual employees to be given training on			
	emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			
2	Training to be given to employees on how to disconnect electric and water supply in their buildings.			
3	Heavy objects, glasses to be kept in lower levels. To be inspected during safety rounds every quarter.			
4	Heavy objects must not be kept on the parapet, window, balcony sills.			
During	Effective Period			
	Personnel informed to vacate buildings. Lifts not to be used for evacuation.			
2	People to be advised to maintain calm and reassure others.			

3	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipments.		
4	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
5	When outside, move away from buildings and utility wires.		
6	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
After	Effective Period		
1	All Admin officer take charge to respective Control Rooms		
2	All the Buses, LMVs moved towards parking near all Assembly Points.		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		

	Security Services - Emergency Preparedness			
	Earthquake - Checklist			
	Activity	Yes	No	Remarks
Part of	Regular Training and Inspections			
1	All on-roll staff and contractual employees to be given familirization on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			
2	Training to be given to employees on how to disconnect electric and water supply in their buildings.			
3	Heavy objects, glasses to be kept in lower levels. To be inspected during safety rounds every quarter.			
4	Heavy objects must not be kept on the parapet, window, balcony sills.			
During	Effective Period			
1	Personnel to be informed to vacate buildings, godowns, cranes, RTG's and RMQC's. Lifts not to be used for evacuation.			
2	People to be advised to maintain calm and reassure others.			
3	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipments.			
4	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.			
5	When outside, move away from buildings and utility wires.			
6	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.			
7	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.			
8	DPC, MMPT Marine Control Officer and data entry operator to assemble near jetty barrier with all hand held VHF, UHF, emergency light and mobile phones.			
9	Announcements to be made instructing employees to avoid taking shelter near buildings, godowns, high rise equipments, stacked containers and trees.			

After	After Effective Period				
1	Security Control Room Officer along with Data Operators to return back to respective Security Control Room.				
2	Take headcount of all the personnel.				
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing				
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.				
5	Assess damage to equipments, building and for any unsafe condition.				
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.				
7	Initiate restart process.				

	Railway Services - Emergency Preparedness			
	Earthquake - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Part of	Regular Training and Inspe			
1	All on duty staff and contractual employees are given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			Training program
2	People are made aware about evacuation plan in case of emergency.			Training program
3	People are made aware of do's and don'ts before, during and after earthquake.			part of training. List of do's and don'ts enclosed
4	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.			To be placed with dry cargo coordination desk and FCC control room
5	Training given to employees on how to disconnect electric supply in their buildings.			
6	Heavy objects, glasses kept in lower levels. To be inspected during safety rounds every quarter.			
7	Heavy objects must not be kept on the parapet, window, balcony sills.			
During	Effective Period			
1	Personnel informed to vacate railway building control room,Railway Yard,Loco Shed,Railway stations and Railway Maintenance Office. Lifts not to be used for evacuation.			To be made part of emergency drill.
2	Announcements to be made to avoid taking shelter near buildings, godowns, high rise equipment, stacked containers and trees.			To be made part of emergency drill.
3	People must be advised to maintain calm and reassure others.			
4	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.			To be made part of emergency drill.
5	During the earthquake, the safest places are open spaces, away from buildings, godowns and high rise equipment, electrical lines and trees.			

6	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.		
7	When outside, move away from buildings and utility wires.		
8	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.		
9	FCC control and coordination desk personal to assemble near 00 Line and Railway building respectively with all hand held VHF, emergency light and mobile phones		To be made part of emergency drill.
After I	Effective Period		
1	Railway Emergency team to return to their control rooms.		
2	Take headcount of all the personnel. (Railway operation building, loco shed, railway stations and railway maintenance Office)		
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.		
5	Assess damage to equipment and building to ensure safe working conditions.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Initiate restart process.		
8	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
9	Communication to be sent to all clients regarding assessed and potential damage to cargo.		

	WEST BASIN - EMERGENCY PREPAREDNESS					
	Emergency Response					
	Earthquake - Checklist					
Part of	Regular Training and Inspections					
Sr. No.	Activity	Yes	No	Remarks		
1	All on duty staff and contractual employees are given training on emergency response on earthquake, exit routes in various buildings, assembly points and location of Medical Station/Fire Station.			Training program		
2	People are made aware about evacuation plan in case of emergency.			Training program		
3	People are made aware of do's and don'ts before, during and after earthquake.			Part of training. List of do's and don'ts enclosed		
4	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.			To be placed at Central Control Room		
5	Heavy objects, glasses kept in lower levels. To be inspected during safety rounds every quarter.					
6	Heavy objects must not be kept on the parapet, window, balcony sills.					
7	Wardens of the individual buildings are aware of their duties.					

8	Emergency team prepared for respective emergencies and their roles and responsibility.			
9	Emergency Contact Numbers displayed and circulated to all concern.			
10	Ensure that emergency siren is working.			
11	HODs have a meeting above the impending emergency steps			
During	Effective Period			
1	Ensure proper communication with Security for traffic control of dumpers/trucks.			
2	Ensure proper communication with railway department (Govt) for rake movement.			
3	Ensure proper communication with transporters and agents for their role in case of emergency.			
4	Ensure that any information from CCR/higher authority must be passed on to the downstream.			
5	Personnel informed to vacate buildings, cranes, transfer towers, workshops etc. Lifts not to be used for evacuation.			To be made part of emergency drill.
6	Announcements to be made to avoid taking shelter near buildings, godowns, high rise equipment, stacked containers and trees.			To be made part of emergency drill.
7	People must be advised to maintain calm and reassure others.			
8	All operations must be stopped and personnel moved to a safe location from where they can be evacuated.			To be made part of emergency drill.
9	Ensure all the customers/surveyors have been informed regarding emergency and preparedness.			
10	Ensure electrical isolation of machines/equipment before leaving.			
11	During the earthquake, the safest places are open spaces. Stay away from buildings, godowns and high rise equipment, coal piles, electrical lines and trees.			
12	If indoors, take cover under a desk, table, bed or doorways and against inside walls and staircase. Stay away from glass doors, glass panes, windows or outside doors. Do not cause a stampede while evacuating as the buildings in the Port are earthquake resistant.			
13	When outside, move away from buildings and utility wires.			
14	If in a moving vehicle, stop the vehicle and stay in the vehicle away from buildings, towers and trees.			
15	Ensure all person should reach to the assembly point keeping away from the any structures.			
16	Warden has to perform his duty for evacuation of building.			Warden's Duty
After E	ffective Period			
Sr. No.	Activity	Yes	No	Remarks
1	Staff of Central Control Room and Marine Control will return back to their desk.			
2	Warden has to take head-count of all the personnel (sitting inside building). Individual Incharge has to ensure the head-count of all the workmen and the field staff.			
3	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing			
4	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.			

5	Assess damage to equipment and building to ensure safe working conditions.		
6	Check water pipes, electric lines and fittings. If damaged, shut off the main valves. Do not touch live wires.		
7	Ensure that respective HOD/HOS have inspected areas.		
8	Initiate restart process.		
9	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
10	Ensure that site-round is taken, report prepared and submitted the observations to all concern for compliance.		
11	Communication to be sent to all clients regarding assessed and potential damage to cargo.		
Pre-A	ssessment Checklist [Preparedness in Early Stage]		
1	Ensure that all the important document are preserved at a proper place.		
2	Enusure that Emergency team has been prepared along with Roles & Responsibility.		
3	Ensure each representative of each department has a substitute (Dry Cargo, E&I, MHS SR, MHS Conv, MHS GSU, MHS WLS TLS, MHS Utility, ES CWS, ES Civil, Fire, Safety, Security, Marine, Railway, Admin, Store, IT etc).		
4	Ensure that list of Emergency Contact Numbers are displayed.		
5	Ensure that all employees, contractors/vendors/visitors/other customer are aware of emergencies and preparedness.		
6	Ensure that Emergency items contains following items; torches, ropes, wires, tarpaulins, plastic sheets, tool kit, duct tapes, assorted gears, first aid box, sand bags.		
7	Ensure proper communication with the POC for further information/ updates/news of respective emergency from disaster authority/ Govt agencies.		
8	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]		Click Here

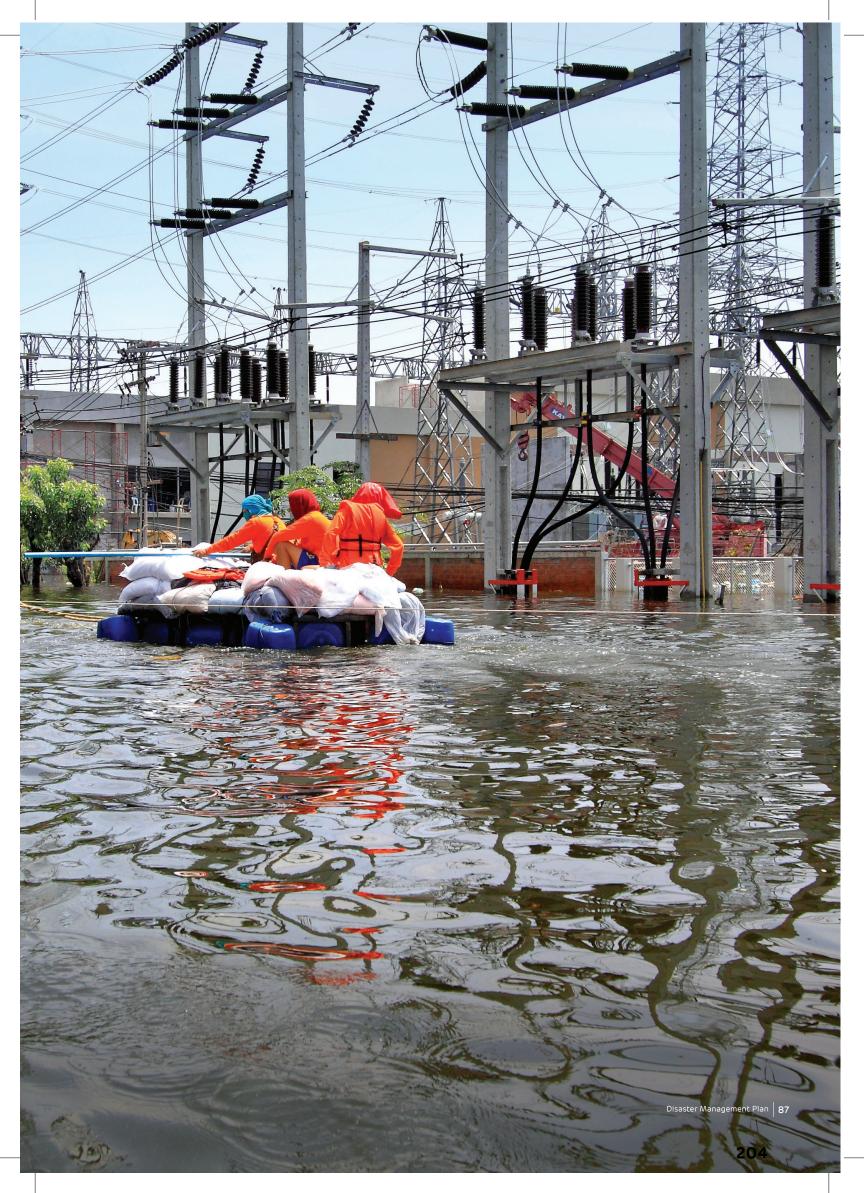
	QHSE&F - Emergency Preparedness					
	Emergency Response.					
	Earthquake- Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Induct	ion and Training Program.					
1	Arrange induction /training program for all personnel on emergency preparedness & its awareness.			Part of Induction/ training program.		
2	All concerned employees and contractual staff informed about the assembly point & evacuation locations.					
3	To arrange emergency drill for dealing with such emergency.			To be made part of emergency drill.		
4	To arrange necessary training for emergency response team/CMG/First Aid Team/Medical Team/Fire rescue team to deal with emergency. (Ensure availability of trained rescue team & necessary equipments all the time)					
5	Arrange training for all QHSE&F team member for emergency response & clear cut understanding of their cruisial roles & responsibility during emergency.					

			I
6	To prepare & check effectiveness of Emergency Response Plan/ Disaster Management Plan.		
7	To do proper co-ordination with all concern department for maintaining necessary emergency response kit & necessary aids in required inventory or make identified supply of the same during declaration of such emergency.		
8	To maintain close co-rdination with mutual aid for dealing with emergency.		
During	Effective Period		
1	Assist CEO/Executive Director (Corp. Affairs). as instructed.		
2	Co-ordination with respective HOD/HOS with respect to emergency actions.		
3	Ensure necessary action through CMG. Provide necessary assistance to CMG.		
4	Assist in evacuation of all personnel except key personnel.		
5	Provide HSE & F facilities (Assist for Rescue, Evacuation, and other Necessary Arrangement).		
6	Set up casualty collection centre and arrange first aid posts.		
7	Arrange enough stock medicines, antidotes, oxygen, stretchers,		
8	Keeping in mind that Road and Rail connectivity may be cut off for required period of time.		
9	Arranges additional medicine and equipment as required.		
10	Arrange a fully equipped Ambulance in ready state.		
11	Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment.		
12	To do immediate co-ordination to mutual aids for necessary help/support if required.		
After E	Effective Period		
	Assist to CEO/Executive Director (Corp. Affairs).		
2	Assess damage (human) and send for further treatment.		
3	Assess the property damage and prepare report.		
4	Assist all HODs with restoration.		
5	Perform necessary rescue through rescue team where needed.		
6	Check each & every effecetd area & arrange for necessary HSE& F actions as require.		
7	After completion of all rescue, restoration work. check the effectiveness of executed emergency plan & take necessary require corrective action to update the plan & necessaary facilities if required.		
8	To motivate the emergency rescue team, CMG $\&$ all concerns , who have perform well during emergency.		

Disaster Management Plan for

# Heavy Rain/ Flood





## Heavy Rain/Flood

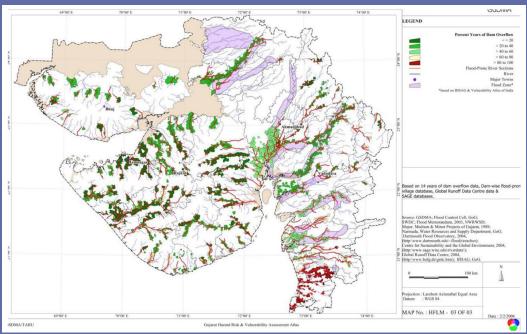
### Introduction

During emergency, flood messages are conveyed by the Govt authorized Officer or Collector of the District to All India Radio/Doordarshan Kendra for necessary broadcast.

Heavy continuous rains for long period of time after which the dams are opened at Patri near Mundra.

Probability of damage to port assets is medium, chances of life loss are less as time is available and detailed mitigation procedures can be implemented. Emergency action will be based on preparedness levels achieved during emergency drills. Proper communication channel to be established for dissemination of warnings to the persons working on ground level.

Gujarat flood hazard risk zonations settelment wise flood frequency



### Important information

- Power supply may be cut off for a considerable time (days) if the flood is severe.
- Both road and railway connectivity may be cut off for some time.
  There may be unpredicted inundation from unforeseen direction.
- · All preparations to face such eventualities should be taken. Drinking water and adequate stock of essentials to be maintained.
- Adequate stock of essential medicines shall be maintained.
- If any other incident (i.e. fire, toxic release, oil spillage) occurs because of natural calamities, actions mentioned in the onsite emergency plan & Oil spill contingency plan needs to be taken.

### Useful websites for tracking floods

- http://www.gsdma.org/
- www.imd.ernrt.in
- www.npmoc.navy.mil/products
- www.underground.com/tropical

### Action plan

- A. Actions Two days before heavy rain expected as per weather forecast.
- B. Actions On the day when rainfall starts.
- C. Actions Heavy Rain/During Flood.
- D. Actions Post Flood stage: recovery, insurance, Restoration & relief.
- E. Checklists to be used at different stage of Flood.



### 2 days before heavy rain expected as per weather forecast

Actions - Immediate after obtaining receiving information from concern authority:

This Activity starts on intimation of possible Flood hitting the Port. Normally before 3 to 4 days, and at least 48 hrs before the predicted cycle.

### Marine Control (Signal Station)

- · Prime duty of signal station is to collect the weather condition, give warning to all, by hoisting warning signals and control all marine activities.
- · Marine Head of the Port is the controlling authority of Signal Station, who is assisted by 2 DGM Marine Operations.
- Marine Control is the eyes and ears of the port.
- Marine Control station is the Permanent Nodal Agency to gather information about low pres sure forming, cyclone formation and all details of cyclone and marine control shall inform to CEO and all HODs.
- The Port's radar system is installed on top of the Marine Operation Building (MPT & WB) station, Vessel Traffic Management System (VTMS) is with the marine control.
- The information is to be collected from Indian Meteorological department, Local radar system/ Local TV networks news/Radio and Web-site.
- · All information related to low pressure formation and flood shall be immediately sent to CEO and all HODs by mail, SMS, followed by telephone to ensure the authority has received the message. In case any recipient is out of headquarters, the information shall be passed on to the HOS.
- · The Marine Control station shall maintain the contact details of CEO, all HODs and, HOSs, in addition to all installation. (HR department shall supply contact details of all concerned list is to be kept updated every 3 months).
- · On confirmation of flood, Marine Head shall make arrangements for food, water and all facilities necessary for the smooth functioning of the marine control, as proposed for Flood Management Centre.

### Flood Management Centre

- On receipt of information of approaching flood a Crisis Management Centre (FMC) at Adani house, First floor, Conference room shall be started at least 48hrs prior to the approach of flood.
- FMC formation shall be ordered by the CEO or the Executive Director.
- · First and second floor of a permanent building is the ideal choice and hence the first floor of Adani House has been chosen for setting up of the FMC.
- · CEO or the Executive Director shall be overall in charge of the FMC and shall take all necessary steps for proper functioning of the control room.
- · All information shall be passed over to FMC by the Marine Control, when FMC starts functioning.
- All coordination and control shall be done by the CEO from the FMC.
- The FMC shall have stand-by power supply (Diesel powered Generator) which can last at least 48 hrs, in case of power failure. A diesel bowser shall be kept stand-by at a sheltered/ protected location near Adani House to supplement the existing 1800 ltrs of fuel which is available for the 320 KV Generator. The FMC shall be easily accessible and well connected with at least 3 modes of communication (Telephone, Walkie-talkie with charging facility, Mobile phone) in addition to functional public address system.
- The communication system between Marine control, FMC, CEO and HODs shall not fail at any cost.

### Control room shall have the following facility

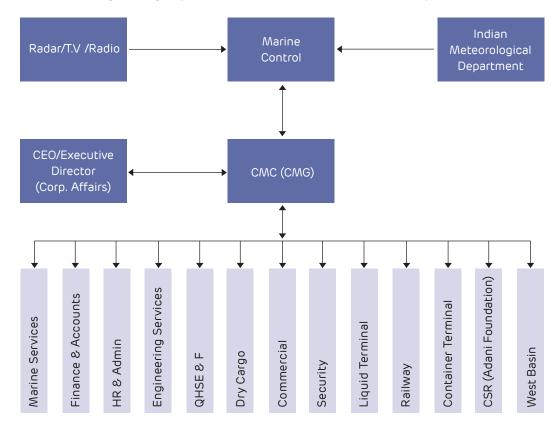
- Two numbers of laptop with internet link.
- · Communication systems as described above.
- UPS and stand-by generator with fully charged battery and diesel for 4 days continuous running.
- Toilet facility with at least 2x1000 liters capacity overhead water tank.
- Dry food items and bottled water for 3 people for 4 days.
- One vehicle and one stand-by vehicle with adequate fuel and drivers.
- · Adequate chairs, tables and sofas.
- Marine Head shall also arrange food and water for persons working at Marine Control round the clock during cyclone through HR & Admin.

### Crisis Management Group

- Crisis Management Group (CMG) will be a permanent body to deal with all crisis and formed by CEO.
- On confirmation of possible flood attack on the port, the Crisis Management Group (CMG) shall meet at the FMC or other convenient place as determined by the CEO.
- CEO Shall appoint departmental HOD/HOS as Coordinator and Convener of the CMG.
- All meetings of the Crisis Management Group (CMG) shall be conducted in the FMC.
- All HODs/HOS shall be members of CMG, in absence of CEO, Executive director shall be the Chairman of CMG and Coordinator shall be the convener.
- CEO may declare emergency so that all staff and officers shall be at their duty stations and congregate at their designated stations for taking review of the situation and for implementing orders received from their respective HODs, who are CMG members.
- No officer shall leave his station during the emergency period.
- FMC shall be manned round the clock and shall be headed by CEO or someone nominated by CEO. He shall be at least of the rank of HOD.
- All advance preparations before the onset of flood, actions during flood and recovery shall be reviewed by CEO/Executive Director at FMC with the concerned CMG members.

### Crisis Management Group - Responsibilities

All HOD's and HOS's shall be members of crisis group for flood management and post restoration activities in addition to members nominated by CEO as per the situation. The crisis management group shall be active till the full restoration of port activities.



### Commands structure/designated persons:

- The following table shows the command structure for each department.
- In case the officer in the first column is not available, the second in command automatically takes over.
- · Designation of the first column is the HOD and second column is the successor.
- In case of absence of both, the senior most officers of the dept. to assume charge.

Sr.No.	Head	Successor
1	CEO	Executive Director (Corporate Affairs)
2	HOD (Marine)	HOS (Marine)
3	HOD Finance	HOS Finance
4	HOD (HR & Admin)	HOS (HR & Admin)
5	HOD (ES)	HOS (ES)
6	HOD (QHSE & F)	HOS (QHSE & F)
7	HOD (Dry Cargo)	HOS (Dry Cargo)
8	HOD (Commercial)	HOS (Commercial)
9	HOD (Security)	HOS (Security)
10	HOD (Liquid)	HOS (Liquid)
11	HOD (Railway)	HOS (Railway)
12	HOD (Container Terminal)	HOS (Container Terminal)
13	HOD (West Basin)	HOS (West Basin)
14	HOD (CSR – Adani Foundation)	HOS (CSR – Adani Foundation)

<sup>\*</sup> Roles of HODs [West basin (ES & DC)] and HODs [MPT (ES &DC)] are same. HODs [West Basin] will assist to Head – West Basin.

### Duties and responsibilities of CEO /Executive Director and HODs:

- On receipt of imminent flood, all HODs shall inform their subordinates to take all prescribed precautions as per the checklist and stand-by for further instruction.
- · All HODs and officers shall have departmental walkie-talkie and mobile phones with them with fully charged batteries.
- All HODs shall collect sufficient cash from the CFO, with the approval of CEO for contingency expenditure.
- · All the members of the crisis group are required to inspect their area of responsibility to make sure all necessary precautions have been taken.
- · In addition to the following, if there are any additional requirements. It shall be promptly attended to. Detailed duty and responsibility of the CEO and HODs are listed below

- Group Position
- → Port Position
- → Alternative
- → Site-Main Controller

**CEO** 

Executive Director (Corp. Affairs)

- Keep a close contact with marine control, CMG/ head marine and get latest update on the flood.
- Call for emergency meeting of the CMG for appraisal.
- · Instruct all HOD's to be in readiness.
- Instruct HOD to form groups of officers and distribute the duties and responsibilities of all subordinate officers for their readiness (a group formed).
- Monitor flood management action plan. Check list is prepared.
- Declare and ensure state of emergency and preparedness is maintained all throughout till full recovery and restoration.
- Finalize the program for shutting down operations and evacuation and other operations as deemed necessary.
- CEO shall coordinate with CMG and flood related coordination work. such as:
- Liaison with District Collector, Indian navy, Coast Guard and SP and local administration.
- Instruct the SEZ corporate affairs/Adani foundation to inform local villages the danger arising from the imminent approach of flood and apprise them to move to safer areas and offer all possible assistance.
- Review the condition of stack yard, stock of cargo inside transit shed, cargo safety action plan with all HODs.
- Review safety of dangerous cargo if any on board the ship, shed or nearby.
- Plan for casting off ships with dangerous cargo and dispatch of dangerous cargo from the port by road on priority basis.
- Finalise roster for removal of cargo from ships to roads from the port with head marine and HOD's, marine operations
- Review drainage, evacuation of surge/tidal water with ES-Civil dept. and instruct civil department to complete all related work within short period of time.
- Review action plan for safety of port and port equipment with Marine, Dry Cargo, ES, railway and CT.
- Review the plan for emergency power supply and water supply with MUPL.
- Finalize with Admin/HR and HSE, the action plan for the safety of employees to colony including emergency evacuation in case of water logging at various places.
- Instruct Admin/HR to coordinate all arrangements for food and water.
- Ask all HOD's to be ready with resources to meet unpredicted emergencies
- Issue order to declare HOD finance as the coordinating officer for all works related to insurance.
- Review the insurance position and renew policies if lapsed.
- Sanction cash for emergencies, to be maintained by HOD's.
- Review the preventive arrangements made by HOD's as per checklist.
- Keep the corporate head office informed of all incidence and activities.

- Group Position
- Port Position
- Alternative
- Incident Controller

Head - Marine

HOS - Marine

- Have close coordination and supervision of the marine control to be fully alert day and night to monitor the flood condition and get the latest input.
- · Pass on the latest message to CEO/Executive director and all CMG members for advance planning.
- Take active part in the formation of CMG with the approval of CEO.
- Take action to preserve all vital records and documents.
- · Co-ordinate with HSE and take their advice for health, safety and environmental issues particularly if ships with dangerous or toxic cargoes are present in the port.
- · Ensures that applicable implementation procedures are reviewed and are in position.
- · Inform master of the ships about the flood and

ask them to be prepared to move out on short notice.

- · Keep all the tugs and crafts stand-by for emergency evacuation of ships to roads on short notice.
- Prepare a roster for evacuation of ship, in consultation with HOD of various SBU's.
- · Discuss and finalize with master of tugs and other officers necessary action to be taken for the protection and safety of tugs, port crafts and navigational aids, during flood.
- · Keep all navigational survey equipment in good condition for use after passage of flood situation.
- · Control of shipping.
- · Obtain approval from CEO for taking all necessary action for the safety of the port and port crafts.
- · Considering the condition of the channel depth, marine head shall prepare a chart for evacuation of the ships from the port.
- Marine head shall apprise CEO of all actions being undertaken.
- Action plan for such situation to be planned in advance.
- Increase nos. of mooring ropes etc. if required are to be planned.
- · Keep enough wire ropes ready for use in case of emergency.
- Coordinate for proper functioning of FMC.
- · Prepare duty roster for manning of Crisis Management Centre by officers of the Administration, Finance & Accounts and Commercial.
- · Keep track of the flood and take all necessary action for cargo management with the help of various SBU's Head.
- · Visit the Port and coordinate with various SBU's Head to ensure safety of cargo stacked in stack yard and cargo stored in covered areas.
- $\bullet$  Management of Hazardous waste may be done with the guidance of HOD QHSE & F.
- Action plan to move Hazardous cargo to safe place to be finalized.
- Liaison with all stake holders to relieve their anxiety if any.
- The roster of all departments may be collected, combined and kept in the FMC for ready reference.
- Mobilizes and monitors vehicles as per the checklist.
- · Coordinate with Coast-Guard for patrolling the seafront.
- Liaison with Marine Police and ensure proper patrolling.
- · During the course of flood fishing boats may try to berth on the vacant spaces and damage the berth or sink there.

- Plan in advance to prevent this incidence.
- Arrange food and water for personnel on roster duty with the help of HOD Admin.
- Liaises with local administration and communicates inputs from and to the SEZ Corporate
  affairs/Adani foundation.
- Liaises with media as spokesman under guidelines of the CEO.
- Liaison with the District Collector/Tahasildar/Local Police/Marine police as and when directed by CEO.
- Advance planning to keep audio/video records of all events.
- Ensure proper storage of valuable documents and equipment.
- Weather forecast news to be circulated regularly to the industries inside SEZ and surrounding.
- → Group Position
- → Port Position
- Alternative
- Secondary Support
  Team

Head F & A

HOS F & A

- Maintains cash/funds for disbursement to all the dept.
- Disburses cash/funds to different departments as per requirement.
- Take over the function as Nodal officer for all Insurance related activity.
- · Keep all valuable records and data in safe custody.
- Provides Disbursement Statement for processing claims.
- Depute officer to each dept. to assess the requirement and needs of affected dept.
- Assist in procurement and process purchasing/ leasing of equipments.
- Prepare to help Admin/HR for hiring of specialist services, food, and shelter and transport arrangements, as the situation demands.
- Prepare documents for all events, damages and claims.

- Position
- Port Position
- Alternative
- Primary Support Team

HOD HR & Admin

HOS HR & Admin

- Keep close liaison with FMC/CMG and perform coordination with the concurrence of CEO.
- Attend CMG meetings, as directed by CEO/Executive Director (Corp. Affairs).
- · Keep enough staff and vehicle to attend emergencies.
- Provide contact details of all officers and staff to Marine control and FMC.
- Discuss and finalize with HOD QHSE & F, action plan for the safety and shelter of all officers staff and Staff colony.
- Collect the duty roster of all dept. and their posting position to finalize arrangements for provisions, water and other essential for 4 to 5 days.
- Finalize arrangements for safety of colony.
- Advise colony occupants to store drinking water, cooking materials, cooking gas, candles etc. to meet emergencies.
- Ask the canteens to store adequate raw materials,

gas etc for at least a week.

- Coordinate evacuation with Transport in township areas if situation so warranted with the clearance from FMC.
- Finalize in coordination with HOS Admin & HOD Security the plan to ensure safety of Port properties and Colony.
- Coordinate with HSE and Medical officers for attending to emergencies.
- Coordinate with other field group (DC, Marine, ES, Container, CT, Liquid, Railway, Security, and QHSE & F) for food and drinking water for the persons engaged in flood duty and restoration work.
- Make a list of staff who can be evacuated from all departments (DC, Marine, ES, Container, CT, Liquid, Railway, QHSE&F)

- Position
- Port Position
- Alternative
- Incident Controller

HOD - ES (MPT & WB)

HOS - ES (MPT & WB)

- · Keep up to date about the flood conditions.
- Make detailed inspection of all facilities and plan for preventive actions in case of flood conditions.
- · Make responsibility chart for safe parking of all equipments and advice the implementation system to field groups for on site action.
- · Plan for checking the condition of all stand-by equipments like DG sets, Diesel engine driven welding sets, De-watering pumps etc.
- · Plan and advise the procedure for parking and anchoring of all equipments to the field group as detailed below.
  - > Plan with HOD Commercial for procurement of essential materials.
  - Keep all valuable data's and records in proper safe custody.
- · Finalize a team of engineers and staff for round the clock emergency duty.
- · Plan for adequate dry food and water, with the assistance of HOD Admin for the people who may be required to be on emergency duty.
- Plan for emergency de-watering units, emergency lights etc.
- Draw available resource pool and keep a list of qualified contractors contacts and number. Keep stand-by at least one team for emergency Power transmission line repairs and reconditioning.
- · Call the officers and personally apprise them the action to be taken in the next 24 hrs (24 hrs pre flood).
- · The last pre-flood period may be curtailed due to unexpected sudden Increase of wind speed.
- The action team should be apprised of such a situation taking place in advance.
- Cargo operation to be stopped early for moving equipment to safety and taking out ships.
- Though the port operation shall continue till the time the wind speed permits, all preparatory arrange must be in place to complete all planned Safety work before the wind speed reaches the threshold limit.
- Plan for parking all non-working equipment prior to the last 24hrs.
- · Attend the CMG meeting and apprise CEO/Executive director (Corp Affairs) the action plan to be taken to prevent damage to the port equipment and installation in case the flood hit the port.

### Instruction to be given to the designated groups for anchoring the equipment :

- · Stop operations in consultation with HOD Dry cargo & Container terminal when the wind speed increases.
- The Loading and unloading booms of Ship loader, Ship unloader and container cranes, HMCs shall be lifted and latched.
- If latching is not functioning, repair it or tie with wire ropes as additional Protection.
- · Ship loader and ship unloader, HMC etc. shall be travelled to the designated parking position lower the anchoring pins into hole and lock.
- In case of hydraulic locking, lower the locking jaws and lock it with rails.
- Park and secure the boom of all stacker & reclaimer at the designated place.
- In addition, block all the wheels of all rail mounted equipment mechanically.
- · Lock all control rooms and operators cabins.
- Switch of power supply of equipment, after they are parked and secured.
- · Check all MCCs and tunnels and ensure there is no possibility of surface water entry inside.
- · Inspect all roads, culverts, drainage system and water supply system.
- Take action to rectify defects on war footings to complete within 24/30 hrs.
- · Inspect all buildings, roof of temporary buildings, and top of conveyor galleries.

- · Take action for repair and strengthening.
- Inspect the seashore of the port and take action for protection if warranted.
- Plan action group to attend to emergencies, Co-ordinate with MUPL for maintaining water supply.
- Check all buildings, conveyor gallery and roofs tops and strengthen them to with stand the cyclonic wind.
- Coordinate with HOD Commercial to procure and store enough sand/cement and other construction material to tackle emergency.
- An experienced engineer may be attached with commercial to help in arranging civil construction materials.
- Impart all necessary to seal entry of surface water inside tunnel and MCCs and control rooms.
- Plan for a group of officers and staff for stand-by duty during flood.
- Plan to keep adequate diesel operated de-watering pumps.
  - Position
- → Port Position
- Alternative
- Primary Support Team

HOD - QHSE & F

HOS - QHSE & F

- Assist CEO as instructed.
- Co-ordination with respective HOD/HOS with respect to emergency actions.
- HOS of all sections of QHSE&F will assist to HOD – QHSE&F.
- Assist in evacuation of all personnel except key personnel.
- Provide HSE & F facilities (Assist for Rescue, Evacuation, and other Necessary Arrangement).
- Liaison with mutual-aid partners for assistance.
- Availability of Emergency Kit (torch, PPEs, rope, first-aid, whistle, VHF sets, PA System, Fire Extinguisher etc)
- All Emergency vehicles are to be ready to operate, completely filled with fuel, and stand-by drivers.
- Arrange necessary staff of Fire & Rescue with necessary arrangements.
- Assess the prone areas where there could be chance of major environmental pollution.
- · Remove/Securing of Hazardous and toxic cargo.
- Providing necessary arrangement to prevent damage to the environment.
- Suggests optimal strategies for conducting emergency isolation of damaged equipment, the emergency transfer of materials etc.
- · Renders assistance for trapped personnel.
- Recommends the appropriate procedures to isolate damaged units without introducing new hazards.
- Coordinate as per plan for all preparations to meet the emergencies.
- Set up casualty collection centre and arrange first aid posts.
- Arrange enough stock medicines, antidotes, oxygen, stretchers, keeping in mind that Road and Rail connectivity may be cut off for required period of time.
- · Maintains a list of blood groups of each employee with special reference to rare blood groups.
- Arrange additional medicine and equipment as required.
- Arrange a fully equipped Ambulance in ready state.
- Ensure that the casualty section of Port hospital has specialists round the clock during flood.
- Arrange for extra beds and in emergency contact with the Adani Hospital and Bhuj Hospital for extra medical supplies.
- Make arrangements for mobile casualty unit to reach at incident sites and transportation for further treatment.
- Duty Doctor to be onsite with team who acts as liaison officer for all medical services.
- Advise regular medicine takers to keep adequate stock of medicine with them like BP patients,
   Diabetics etc.

- Position
- Port position
- Alternative
- Incident Controller

HOD-Dry Cargo (MPT & WB)

HOS-Dry Cargo (MPT & WB)

- · As soon as getting the information about flood, personally visit all stack yards, plots and other cargo storage area, including transit shed if any and satisfy the condition of stacking.
- · Inspect all drainages and if found not clear inform civil engineering to immediately clear the drainages to ensure free follow of drained water.
- · Confirm that hazardous and toxic cargoes are properly protected to prevent environmental issues.
- Take action to evacuate all perishable cargo, and ask the owner to arrange for evacuation as quickly as possible.
- Take action to identify all expensive materials and take action to protect them to prevent losses during flood.
- Arrange to segregate and protect cargo in sheds.
- Co-ordinate with HOD Marine in de-berthing vessel to vacate the berth.
- · As soon as the wind speed approaches 20mtrs/sec, issue instruction to stop all operation and move the equipment to parking position.
- Discuss with DC team and HOD Marine and operations may have to be stopped early, so that they get time to move out all ships.
- ES also need time to travel the equipment to parking position.
- · Take all possible action in coordination with CMC and owners of cargo to ensure no or minimum loss of cargo during flood and possible tidal inundation.
- · Have a final inspection of cargo before the onset of heavy wind.
- · While inspecting if any drainage system inside the port is still chocked, immediately arrange to clean it with the assistance of (ES-Civil department).
- · Coordinate with ship-owners/agents/C & F agents/stevedores and with HR/Admin Officer to arrange and evacuation and safety of all men.
- · Liaison with HOD Security for safety of cargo.
- Preserve all records in safe place to save it from wind and possible inundation.
- · All cargo handling equipment like, Pay loaders, Front end loaders, Bull dozers, Dumpers, Trailers, cranes, forklifts etc. shall be kept ready with adequate fuel to use them on emergency, during flood and later during restoration. This equipment is to be parked in a safe, protected area.
- · Enough operators/workmen also shall be stand-by round the clock to operate these equipment during flood in emergencies and for restoration.
- Mobilization of additional manpower and cargo handling equipment
- Port, Stevedores and C & F agents to meet emergencies and later on to segregate unaffected cargo and make arrangements to protect such cargo, till evacuation.
- Officer of Dry Cargo will coordinate with Security about the local road network in case of road blockage, to clear the blockage in coordination by Corporate Affairs with state government and local administration.
- · Corporate Affairs to also explore alternative mode of connectivity, so that some form of connectivity with the main stream is immediately established.

- Position
- → Port Position
- Alternative
- Secondary Support Team

**HOD** – Commercial

**HOS - Commercial** 

- Collect details of all materials in store and plan for procurement of adequate stock of consumables and construction materials.
- Discuss with all HODs about their possible requirements.
- Make physical verification of the stores for proper stocking to prevent damage during flood.
- Co-ordinate with ES-civil for repair of stores if required.
- During flood, keep sufficient stock of consumables like tarpaulins, gunny bags, ropes and wires for port crafts, diesel oil, kerosene oil, hurricane lantern, candles, petromax lamps, torch lights with batteries and bulbs, electrical items etc. are kept in stock.
- Stock adequate roofing materials and fixtures for emergencies.
- Few sealed packets of bleaching powder shall be available in stores for sanitation.
- Few gas Cutting sets may be kept in stores for emergency the quantity may be decided in consultation with ES.
- All the materials which are likely to get damaged with Rain/water inundation shall be protected by a tarpaulin cover and kept above ground level.
- All electrical and electronic items shall be shifted to safe place fully wrapped.
- Stores which needs to be kept in controlled temperature, like belt splicing materials etc. are to be moved to places where D/G set are available, or arrange one D/G set for emergency supply.
- Spares shall be sealed in polyethylene covers and kept to save it from flood damage.
- Electrical items should be kept in high raised rake to prevent water contamination.
- · Cut edge of conveyor belts should be either covered or a coat of rubber solution shall be applied.
- Arrange to keep stand-by staff round the clock to issue these materials any time during the emergency and restoration period.
- · All valuable records and computers shall be properly stored to save it.
- Informs HOD-Finance the approximate funds required.
  - Position
- Port Position
- Alternative
- → Primary Support Team

**HOD** – Security

HOS –Security

- Plan for effective traffic control and its regulation in port area during and after flood.
- Coordinate with QHSE&F for fire and safety issues.
- Inspect the circumference of the Port and in case of damages to compound wall get them repaired with the help of HOS civil Engg, immediately.
- Close all possible vulnerable points.
- · Check the readiness of the fire and safety units.
- Keep clear all internal roads within port area for smooth traffic.
- Plan for posting extra watch and security guard team for intensifying patrolling of stores, substations, berths, transit sheds, warehouses, administrative building, loco sheds, workshops, Water supply installations, etc. in addition to all entry and exit points.
- Issue orders to all gates to effectively control the entry of unauthorized persons or vehicles inside the protected area.
- Plan to intensify the patrolling of periphery and inside

the port, including the Berth area.

- Plan for mobilizing additional manpower and keep to them at stand-by.
- · Liaison with police and local aid agencies under intimation to CEO.
- During the flood, flood and recovery period no visitor shall be permitted inside the protected area.
- In case of authorized visitors, they shall be apprised of the flood and its effect. They may be escorted to safe place.
- Liaison with Admin for their accommodation and transport.

- → Position
- → Port Position
- → Alternative
- → Incident Controller

HOD - Liquid

HOS - Liquid

- Maintain close contact with Marine Control and CMG.
- Inform the masters of the ship about the progress of the flood, and ask them to be prepared to move out on short notice.
- Discuss with Marine HOD and finalize the ship movement program in advance.
- · Keep all officers and staff for emergent action on intimation of flood (Notice of 24 hrs or less only may be given for evacuation)
- Plan for a well-prepared emergency group to standby during the flood to meet unforseen emergencies.

- → Position
- → Port Position
- → Alternative
- → Incident Controller

HOD - Railway

HOS - Railway

- · Maintain close contact with Marine control for the status of the flood.
- · Ensure that the wagons and locomotives are parked in safe area in case the wind speed increases
- All normal operations stopped. Only emergency operations for evacuation of locomotives and wagons to safe places.
- · Railway emergency team is equipped with VHF sets, emergency torches, rain coats.
- Liaison with Indian railway authority.
- Co-ordination with Dry Cargo for wagon loading.
- Railway team in continuous contact with other emergency services (such as QHSE & F, Security, other services)
- Inspect the locomotives of the port, and arrange for trial running to put them into operation.

- Position
- → Port Position
- Alternative
- → Incident Controller

HOD - CT

HOS - CT

- · Maintain close contact with Marine control for the status of the flood.
- Arrange for evacuation of all personnel working in CT.
- · All personnel remaining in the port to be cautioned against venturing out during effective period.
- All containers to be stacked only three high (as per possibility)
- · All hand held UHF/batteries, emergency torch, mobile phone fully charged for use in emergency in case of total power failure.
- Wharf supervisor to ensure that no personnel are allowed on the jetty areas.
- Should be ready to stop activity in case increase in wind speed.

### B On the day when rainfall starts:

- Position
- → Port Position
- Alternative
- → Site-Main Controller

**CEO** 

Executive Director (Corp. Affairs)

- Ensure from HODs that all precautionary measures are completed in advance and obtain written feedback.
- To ensure that all documents and Records are kept in safe places by HOD's.
- Hold review meeting of the CMG at regular interval, minimum 3 times daily till full recovery and resumption of port operations.
- Have frequent overall physical verification inside the port area.
- Advise all members of CMG to be present at CMC during flood.
- Authorize release of required funds.
- Appraise The Corporate office, the situation and action taken.
- Coordinate with District collector, Tahasildar, Indian Navy, Coast guard and Marine Police for advance precautionary actions.
- Take all necessary steps to help local authorities with evacuation and sheltering people of nearby villages who may be affected.
- · Approve information to the media.
- In case of high tidal prediction, employees and families staying in the Colony needs to be relocated.
- Instruct Admin to look in to the possibility of shifting people of ground floor to first floor or above.
- Instruct Admin/HR department to arrange enough grocery items, dry food and drinking water for emergency requirements.
- Confirms the termination of the emergency after the threat is over.
- Lead the Crisis Management Group for early restoration of facilities and resume port activities.
- · Provide timely status reports to the authorities.
- Take active role for corporate social responsibility, depute Adm/HR for Coordinating the activities described below responsibility.
  - Group Position
  - Port Position
- Alternative
- → Incident Controller

**HOD** – Marine

HOS - Marine

- Keep track of the course of flood/heavy rain and inform all pilots and staff and officers under him about the latest position.
- On information from Marine Control about increasing wind speed and heavy rain, ask HOD of Dry Cargo, Container Terminal and Liquid Terminal to stop all loading, unloading of cargoes, discharging and bunkering operations.
- Discuss with CEO, HOD Dry Cargo, Container, Liquid and Pilot to start evacuation of the ship to the roads as per the Roster finalized earlier.
- Ship on oil berth is to be given priority for evacuation.
- Coordinate with HSE to ensure ship with hazardous and toxic cargo are taken out first.
- Evacuation shall be completed before the wind speed reaches threshold value.
- To ensure this evacuation may have to be started earlier.
- · Preserve all records and documents safely.
- Keep all the necessary officers and staff on stand-by for emergency duty.
- In coordination with HOD Security, ensures evacuation of all dock workers and private labour, visitors, shippers, consignees from the port area.

- · Ensures implementation of the disaster response plan and coordinating with the Fire Fighting Authorities (Rescue).
- · After evacuation of all ships, arranges to protect Tugs and Port crafts by proper docking and tie up to withstand simultaneous flood wind and destructive tides.
- Deploy craft- and mobilize resources to confine and clean up spill if any.
- · Keep adequate provision of food and water for men on emergency duty.
- Inform possible time of return to normalcy to all cargo interests, shipping Agents, stevedores.
- · If due to any reason a ship could not be taken out, this ship needs to be protected well against breakage of mooring ropes and possible drifting and banging on to the berth.
- Several tie ups, as situation demands, with bollards needs to be done.
- · A team of staff along with DC/Pilot needs to be on stand-by duty for the period of flood/heavy rain to take spot decisions.
- · Enough good quality ropes, shackles and other required materials necessary shall be kept with the group.
- This matter shall be brought to the notice of the CEO and Corporate Head.

### Actions for SPM:

- Stop all pumping operations.
- Flush both floating and subsea hose strings with seawater.
- Disconnection both floating hose strings from SPM buoy, shift and secure at safe location.
- · Blind both j-piping arm flanges.
- · Disconnect both mooring hawser assemblies and transfer to a safe location or on board of Diving support vessel.

#### Secure all:

- > Loose and portable equipment & spares from SPM buoy.
- > All hatches doors and replace seals if needed.
- > Doors and latches for tightness.
- > Deck & central chamber valves.
- · Remove Hazardous and Toxic substances.

Co-Ordinator

Marine Control (Shift Incharge)

- The coordinator shall work as the convener of CMG.
- The duty of the coordinator is to coordinate with all CMG members and help to implement all decisions.
- · All officers on duty must have walkie-talkie and mobile phone with them with fully charged batteries.
- · Keep few extra walkie-talkies ready at CMC for emergency work.
- · Keep a record of walkie-talkies to prevent loss.
- He shall work as a convener of the CMG and shall report directly to CEO.
- · He shall help all CMG members for the pre-flood arrangements and post flood re-commissioning.
- · The extra man power required for all departments shall be arranged by him, by lateral shifting or by hiring for specific purpose and period.
- · He shall help HOD Commercial for procuring the items necessary for flood damage repairs.
- · A salvage team with a salvage vehicle shall be maintained at the Marine control under the control of the senior pilot, who shall be on duty during flood.
- This salvage team is to be used for attending to emergencies during flood.
- For manning the same, staffs have to be provided in coordination with HOD Marine & ES.
- This vehicle shall be able to move around in port area and shall be provided with, a D/G set, Portable welding machine, Gas cutting sets, wire Ropes, shackles, first aid box, emergency light, necessary tools and tackles etc.
- · Liaise with HOD Marine and is responsible for keeping the Fire and rescue Dept. in a state of alertness on a 24 hour basis.
- Keeps CMG, HOD Marine, HSE and HOD Security informed of any crisis & lead team directly to incident site.

- · Initiates de-watering with the help of Fire and ES.
- Team reaches the incident location with the correct resources.
- The fire team also shall work as rescue /evacuation and other emergencies.
- Assists in the evacuation of workers to the assembly points in liaison with HR. Plan with the assistance of HSE, for adequate men to stand-by duty to be engaged in emergencies.
- Arranges safety equipment e.g. Life Jacket, protective gloves and goggles, breathing apparatus as required.
- The emergency set should be so arranged that it can start functioning immediately on reaching the emergency point (D/G set is ready with POL and battery, Emergency light sets ready, Gas Cutting set is connected and ready, Welding set ready, Enough welding rods are available.)
- Men on duty should contain at least, one welder, an electrician, riggers etc.
- Coordinate with Medical department for maintaining mobile first aid centre.
- Support StaffSenior PilotPilot
- Senior Pilot to be stationed at Marine Control.
- · Assist Pilots to take out ships on to the roads.
- Assist Pilots to secure Port craft properly, taking into consideration of severity of the flood.
- Maintains 24 hour vigilance towards the channel / anchorage & port
- On receipt of any incidence inform CEO/HOD Marine refrains from exchanging any information with unauthorized persons unless authorized to do so by the CEO.
- · Maintains contact with vessels on VHF.
- A salvage vehicle with tools and tackles, a portable welding set, portable DG sets, Gas cutting set, ropes of different size, portable lights should be maintained at the Disposal of the Marine control station under the senior Pilot.
- · For manning the same persons from different department shall be arranged by the Coordinator.
  - → Group Position
  - → Port Position
  - Alternative
  - Incident Controller

HOD-Dry Cargo (MPT & WB)

HOS-Dry Cargo (MPT & WB)

- As soon as getting the information about flood/heavy rain, personally visit all stack yards, plots and other cargo storage area, including transit shed if any and satisfy the condition of stacking.
- Confirm that hazardous and toxic cargoes are properly protected to prevent environmental issues.
   Take HSE into confidence.
- Expensive materials identified and stored carefully to avoid losses due to wind or water inundation.
- Arranges to segregate and protect cargo in sheds.
- Co-ordinate with Marine control in unberthing vessel to vacate the berth.
- As soon as the wind speed approaches 20mtrs/sec, issue instruction to stop all operation and move the equipment to parking position.
- Discuss with ES and HOD Marine, and stop operations early so that they get time to move out all ships.
- Take all possible action in coordination with CEO and owners of cargo to ensure no or minimum loss of cargo during flood and possible tidal inundation.
- Have a final inspection of cargo before the onset of heavy Wind.
- Inspecting drainage system and immediately arrange to clear drainage system if choked with the assistance of ES-Civil.
- Coordinates with ship-owners/agents/C & F agents/stevedores and with HR/Adm Officer to arrange and evacuation and safety of all men.
- · Liaison with HOD Security for safety of cargo.
- Preserve all records in safe place to save it from flood and possible inundation.
- All cargo handling equipment like, pay loaders, front end loaders, bull dozers, cranes, forklifts,

dumpers, trailers etc. shall be kept ready with adequate fuel to use them in an emergency, during flood/heavy rain and later during restoration. This equipment is to be parked in safe, protected area.

- · Enough operators/workmen also shall be on stand-by round the clock to operate these equipment during flood and for restoration.
- · Mobilization of additional manpower and cargo handling equipment from port, stevedores and C & F agents to meet emergencies and later on to segregate unaffected cargo and make arrangements to protect such cargo, till evacuation.
- · A traffic team under an officer, who knows about the local road network shall be formed and be ready to act in case of road blockage, to clear the blockage in coordination by SEZ Corporate Affairs with state government and local administration.
- He shall also explore alternative mode of connectivity, so that some form of connectivity with the main stream is immediately established.
- All the stack yards visited to ensure that the cargo storage is safely done.
- It is programmed complete all the works immediately.
- Proper storage of all expensive cargo separately in safe manner.
  - Position
  - Port Position
  - Alternative
  - Primary Support Team

**HOD** – Security

**HOS – Security** 

- · Maintain adequate men for manning all exit and entry points and to make regular surveillance survey of the port, periphery and vulnerable points.
- Ensure security men on all points, during flood also.
- Maintain patrols and ensure unsafe practices are eliminated.
- · Liaise with Site Incident controller (HOD Marine).
- Keeps CMG, HOD Marine, HSE and HOD Security informed of any crisis & lead team directly to incident site.
- Controls the entry of unauthorized persons and vehicles.
- · Permits the entry of authorized personnel and outside agencies for
- · Rescues operations without delay.
- Allows the entry of emergency vehicles such as ambulances without hindrances.
- · Ensure that all people are aware of the assembly points, where the transportation vehicles are available.
- Ensure that the headcount matches the list of people available with the assembly point section of that area.
- Help Admin/HR for evacuation as and when asked for.
- · Carry out reconnaissance of evacuated area before declaring the same as evacuated and report to HOD Security/CMG.
- · Keep adequate fuel and vehicles for emergency duty, in Consultation with HOD Security/FMC.
- Disperses crowd-cordons off restricted areas- prevent looting.
- During heavy flood there may be instances of local villagers rushing inside the port area, HOD Security may be prepared to meet such emergencies.
- · HOD Security and HOS Security shall frequently take rounds inside the port are to ensure that everything is in order and shall submit compliance to CMG.

- Position
- → Port Position
- Alternative
- → Incident Controller

HOD - ES (MPT & WB)

HOS - ES (MPT & WB)

- Maintain roster of officers and staff for duty during flood and restoration period.
- As soon as the flood is confirmed to strike within 24 hrs start preventive Preparations.
- Apprise the team the modus of operandi of parking and securing each equipment.
- Form teams for safety and securing of all equipment and vital units.
- With coordination with all department HOD Like Dry Cargo, Container Terminal, Liquid Terminal and HSE etc. pull out equipment one by one from operation and move to safe, designated parking area.
- Instruct the leader of the team to be personally responsible and obtain feed back in writing, which may be submitted to CEO, after physical verification.
- Ship loader and ship unloader shall be parked at the designated area, lower the locking bar into the slot in

the ietty.

- In case of hydraulically operated rail clamp, lower them to hold on to the rail, and block all wheels mechanically.
- · Securing of all equipment should be checked before submitting the clearance to higher ups.
- All equipment shall be stopped at the moment upon declaration of flood, raise the booms and latch them, tie up if latch is not reliable.
- Travel and position to the respective earmarked parking position and lock.
- Loading boom of Stacker Reclaimers should be lowered and latched at the parking position.
- In case of any difficulty to travel to the parking position lower the boom to the travelling rail, any one side and tie down with the rail.
- · Block the travelling wheels and slew wheels mechanically.
- Additionally the rail mounted equipment may be tied to the rails by wire rope and clamps depending on the severity of the flood.
- Tie down all raised conveyor belt to prevent dismounting, especially belt on the tippers of stacker reclaimer, ship loaders and open conveyor belts at Berth.
- Do not use wire rope to tie down conveyor belt, also ensure to use gunny bags or old belt pieces between the belt and rope to prevent damage to the belts.
- Power supply to all points to be shut off after parking the equipment.
- There shall be 3 level of inspection after the parking of all equipment by the leader of the anchoring team, HOS –ES, HOD- ES.
- Personally inspect all equipment (Ship unloaders, HMCs, ship loaders, Stacker Reclaimers, portliness, transistors etc. and satisfy the safety of the parking done.
- Parking should be done as per the guide line of the manufactures.
- · The hoppers at the berth shall be locked with the rails to prevent movements at high wind speed.
- Inspect the Tunnels and ensure the de-watering pumps are in working condition. The motors
  may be wrapped to ensure that water does not spoil the insulation in case of power failure
  and inundation. (Ensure to remove the wrappings before switching on)
- Ensure that no surface water make entry into the MCC, tunnels etc., in coordination with Civil.
- All DG sets to be made functional with adequate stock of fuel for at least 4 days of operation.
- The DG Sets should be installed on high pedestal to prevent it from getting submersed in water.
- DG in the guest house, water supply system, Signal station and CMC also need to be maintained.
- Provide all assistance to maintain power supply to colony and water pumping system. Keep adequate drinking water and dry food in the substation for all the staff on emergency duty.
- All important Sub stations have to be manned during flood.
- Monitors the rendering of assistance for rescue of personnel.
- Ensures the dept. group remains alert on duty for electrical isolation of equipment during an emergency.
- Render all assistance for upkeep and restoration of water supply system.
- Lead the group from the front to ensure prevention of damages.
- Inspect the workshops and ensure the equipment are covered properly to save them from

severe wind and water. (Temporary roof may be blown off, hence costly equipment may be wrapped with tarpaulin.)

- Have a personnel inspection of all ES auxiliary equipment.
- Render help to others who request for help, such as Civil and Railways.
- Ensure that all doors of transfer towers are closed and tied to prevent opening due to the gushing wind.
- Position
- → Port Position
- Alternative
- Primary Support Team

HOD - QHSE & F

HOS - QHS E&F

- · Maintain adequate men for manning all exit and entry points and to make regular surveillance survey of the port, periphery and vulnerable points.
- Maintain patrols and ensure unsafe practices are eliminated.
- · Liaise with HOD Marine.
- Keep CMG informed of any crisis & lead team directly to incident site.
- Controls the entry of unauthorized persons and vehicles.
- · Permits the entry of authorized personnel and outside agencies for Rescues operations without delay.
- · Allows the entry of emergency vehicles such as ambulances without hindrances.
- · Help Admin/HR for evacuation as and when asked for.
- Carry out reconnaissance of evacuated area before declaring the same as evacuated and report to CEO/CMG.
- · Keep adequate fuel and vehicles for emergency duty, in consultation with HOS stores/CMC.
- · HOD Security and HOS Security shall frequently take rounds inside the port are to ensure that everything is in order and shall submit compliance to CMG.
  - Position
  - Port position
  - Alternative
- Secondary Support Team

**HOD** – Finance

**HOS - Finance** 

- · Action is initiated to keep cash as discussed with CEO.
- HODs are intimated the procedure of issuing of cash.
- As directed by CEO validity of all insurance verified.
- · Circular issued to all HODs indicating the procedure to be followed for raising insurance claims.
- Separate teams are formed to handle the finance matters of each department so that all cash expenditure and accounts are properly maintained.

- Position
- Port Position
- → Alternative
- Secondary Support Team

HOD - ES (MPT & WB)

HOS - ES (MPT & WB)

- Get updates from the all officers and workmen on duty.
- Ensure completion of cleaning of all roads culverts and drainages.
- If any work is left out take action to compete it within 24 hrs.
- Confirm that all rainwater entry points to the sub-stations and tunnels are sealed.
- Prepare to tackle inundation due to tidal water.
- When flood is confirmed keep contractors on stand-by, for emergency works during and immediately thereafter, men are not available.
- Keep a set of engineers and workmen on stand-by duty for such works.
- Help Admin co-ordinate evacuation of port areas and mobilize, collect and distribute relief material.
- In consultation with CMG keep adequate de-watering

pumps operated with diesel engines.

- Attend CMG meetings as & when require.
  - Position
  - → Port Position
  - Alternative
- → Primary Support

HOD - HR & Admin

HOS - HR & Admin

- Maintain close contact with CMC/CMG/HSE and perform coordination with the concurrence of CEO.
- Make circulars/leaflets and circulate among all including colony.
- Coordinate evacuation of townships and people staying in low lying areas situation so warranted with the clearance from CEO.
- Make announcement to colony and nearby villages with SEZ Corporate Affairs about the severity of the imminent flood and advise local population to move to safer shelters.
- Collecting details of evacuated people. This will be necessary to settle claims, if any, at a later date.
- Consult Legal Advisor and obtain their advice for legalizing all the port's actions.
- Coordinate with other field group (All Departments) for food and drinking water for the persons engaged

in flood duty and restoration work.

- Document all events and actions in coordination with other HODs for future reference.
- Facilities for sanitation and other necessary arrangements.
  - Position
  - → Port position
  - Alternative
- → Incident Controller

HOD - LT

HOS - LT

- Shifting of hazardous and toxic waste in consultation with QHSE & F.
- Maintain close contact with Marine Control and CMG.
- · Make plan for shifting of equipment/vehicles.
- Inform the masters of the ship, the progress of Flood, and ask them to be prepared to move out on short notice.
- Discuss with Marine HOD and finalize the ship movement program in advance.
- Keep all officers and staff for emergent action on intimation of flood.
- Prepare Emergency group to stand-by during flood to meet unforseen emergencies.
- All concerned employees and contractual staff informed.
- · Contractor staff evacuated from the port and verified.

- · All personnel remaining in the port cautioned against venturing out during effective period
- Transportation arranged for evacuation of emergency team if required. (Employees and contractual staff)
- Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)
- Liquid Control (CTF and VEG Oil) Co-ordinate with Marine Control for Flood status.
- · Stop all activities, remove all tanker Lorries from liquid terminal and do not allow any tanker Lorries to enter the liquid terminal area.
- · Vessels at berth are to be informed to keep Main Engine Standby at short notice for emergency castoff in coordination with marine.
- All equipment/computers in control to be covered and protected against water ingress due to heavy rain.
- All storage tanks' shell and roof manholes to be box up.
- Ensure flange joint connection to be tighten.
- Ensure roads and pathways are cleaned and not obstruct for any vehicle movement during emergency.
- · Jetty supervisor to ensure that no personnel are allowed on the Jetty areas.
- · Jetty supervisor to brief all workers/Labours to remain alert and nominated shelters. Only minimal mooring member to remain in the port and no Worker/Labour to be on the berth.
- All Hydra and jetty/technical vehicle to be parked at safe shelter.
  - Position
  - Port position
  - Alternative
  - Incident Controller

HOD - Railway

HOS - Railway

- · Maintain close contact with Marine control regarding the status of the flood.
- Ensure that the wagons and locomotives are in a safe area.
- · Railway emergency team to be equipped with VHF sets, emergency torches, rain coat.
- · Liaison with Indian railway authority.
- Co-ordination with Dry Cargo for wagon loading.
- Railway team in continuous contact with other emergency services (such as QHSE & F, Security, other services)

- Position
- Port Position
- Alternative
- Incident Controller

HOD - CT

HOS - CT

- · Maintain close contact with Marine control regarding the status of the flood.
- · All concerned employees and contractual staff informed must be evacuated from the port and verified.
- All personnel remaining in the port cautioned against venturing out during effective period.
- · All hand held UHF/batteries, Emergency torch, Mobile Phone fully charged for use in emergency in case of total power failure.
- · Operation to be suspended based on information of marine control.
- Only emergency team to be available at site.
- Power supply to all points to be shut off after parking the equipment.
- There shall be 3 level of inspection after the parking of each equipment by the leader of the anchoring

team, HOS -ES, HOD- ES.

Personally inspect all equipment (QC, RTG and other equipment and vehicles) and safe parking.

### C During Flood

- Ensure that all emergency teams and mobile first-aid centres are in action for meeting emergencies as planned.
- Switch off the power supply and ensure all the DG sets are in working condition and enough fuel and operating personnel are working. The DG sets must be installed on high pedestal to prevent it getting submersed in water.
- 3 Evacuation of personnel who remain/trapped during flood.
- No one venture out from the office or shelter if the speed of wind is more than 100kmph. Personnel in open may be thrown by force of wind.
- During flood, no one should open doors or windows, force of wind will force open other doors and windows. Opened windows or doors cannot be closed and chances of roof lifting upwards are high.
- An emergency team with adequate man power, tools and plants, portable welding sets and gas cutting sets with adequate ropes and other consumables shall be maintained during flood for rescue and salvage operation.
- Switch of power supply to all installations from the main power supply source. All important and vital installation shall be manned.

### D Post flood stage: Recovery, Insurance, Restoration & Relief

The purpose of post flood activity is to resume port operation as early as possible.

If the eye of the flood has passed the port, wait for complete passing of the rear anti clock wise rear flood before inspection. Confirm from the radar station/signal station.

### Site-Main Controller – CEO/Executive Director (Corp. Affairs)

- a. Collect the details of damages if any from HODs immediately.
- b. Ask all members of the CMG to immediately inspect their area of responsibility, along with their subordinate staff and officers and report their finding within short period of time.
- c. Ask the HODs to submit preliminary estimate immediately, followed by detailed estimate.
- d. HOD Marine to be asked to complete the survey of channel and berth as quickly as possible, to resume shipping activity.
- e. All required activities to resume Port operations are to be discussed and finalized with HODs.
- f. A department wise detailed programme is to be drawn up to resume normal Port operations.
- f. Regular follow up to complete the work as programmed is to be done.
- g. Emergency powers for procurement and award of contract are to be evoked.
- h. HODs are required to submit the details and programs immediately.
- i. Reports on condition of Tugs and other Port crafts, ship un loader, ship loaders, HMCs and other auxiliary equipments after thoroughly inspection by HOD.
- j. All other cargo handling equipments like container handling equipment if any shall be inspected by HOD and detailed report to be obtained.
- k. MCCs, Stacker Reclaimers, Wagon tippler and tunnel, Conveyor belts, conveyor galleries, Locomotives, Rail load out system etc shall also be inspected carefully by HOD and reports to be obtained.
- I. Check Condition of all civil structures, Roads, Culverts and drainages and water supply system by HOD and reports to be obtained.
- m. Ask all HODs to submit details to HOD Finance to process insurance claims.
- n. Coordinate the CSR activities.
- o. Keep contact with District Collector and local state Govt. official and offer all possible help for rehabilitation of displaced villagers.
- p. Inform all stockholders regarding all clear & restoration of the port operation. Also inform the same to the corporate office.

### Incident Controller: HOD - Marine [Marine & Spm]

- a. Marine HOD shall immediately arrange for survey of channel and berth and inform the condition to CEO/Executive Director (Corporate affairs) who in turn informs the corporate office and stake holders.
- b. Restoration work if any may be done in association with head civil.
- c. Shall check the navigational aid system take action for rectifications if required
- d. Check all tugs and mooring crafts and they should be made fully functional as quickly as possible.

#### SPM

- a. Checking both mooring hawser assemblies and replace the components as required.
- b. Replacements of both 9" PP pick ropes of mooring hawsers.
- c. Inspection of each floating hoses on both floating hose strings.
- d. Underwater inspection of each individual hoses on both subsea hose string and subsea umbilical.
- e. Underwater inspection of all deep sea floats for its integrity.
- Checking subsea hose strings configuration at low and high tide.
- g. Verifying chain angle of all six anchor chains to be within limits, at low and high tide.
- h. SPM buoy body inspection integrity of seal on all hatches and doors.
- i. Operational check of all navigational and safety equipment.
- j. Carryout "Free Span and Lateral displacement" survey of subsea pipeline and provide support wherever necessary i.e. if it is beyond recommended allowable span.

### Incident Controller: HOD - ES (MPT & WB)

- a. Shall immediately depute the electrical engineer to have an update of power supply.
- b. In case of power outage, coordinate with Electrical supply authorities for restoration of power supply.
- c. If power is available, and MCCs are O.K, charge MCCs one by one after thorough checking.
- d. Depute the same team which has parked the equipments to release the equipment for operation after removing all blockages.
- e. If any equipment is found to be damaged report the matter to higher ups and take action for early repair or decommissioning.
- f. Do not start operating, until all parking locks & additional tie-ups are removed
- g. Equipments also can be charged one by one after charging the MCCs after obtaining written clearance from the engineer in charge.
- h. Ensure that the equipments electrical system is perfect before charging. Keep records of all measurements.
- i. Inspect the tunnel and dewater the accumulated water.
- Inspect all electrical and mechanical system thoroughly before Trial run.
- k. All lighting towers which were lowered to be raised up.
- I. Damaged street lights and damaged internal lighting system to be repaired and recommissioned.
- m. All belt clamping/tie-up must be removed before trial run of conveyors.
- n. Arrange for de watering of tunnel with diesel pump if power supply is not readily available.
- o. Ensure all DG sets works till normal power supply is resumed.
- p. Shall inspect the water supply system and take all action to establish normal water supply immediately.
- q. In case of any difficulty bring it to the notice of CEO/Executive Director (Corp. Affairs).
- r. Drainage system if damaged should be repaired immediately.
- s. Inspect all roof tops and if any roof is blown off, take action for replacement.
- t. Coordinate with Admin/HR for clean-up activities.
- u. HODs of West Basin will assist to Head West Basin.

### Primary Support Team: HOD - HR & Admin

- a. Take all actions necessary to rehabilitate for all personnel.
- b. Coordinate with civil department to clean up the drainage and premises.
- c. Arrange for provisions till normalcy is established.
- d. Food arrangements to people on resumption work to be coordinated.
- e. Shall take over the control of CSR activity with the approval of CEO.
- f. May provide additional hands to HOD Commercial for taking up massive procurement actions as pre-planned.

### Primary Support Team: HOD - QHSE & F

- a. Assist the CEO/Executive Director (Corp. Affairs).
- b. Assess damage (human) and send for further treatment.
- c. Assess the property damage and prepare report.
- d. Assist all HODs with restoration.
- e. Arrange for environmentally safe disposal of post emergency generated effluents/waste.
- f. Updating DMP based on faced natural calamities.

### Secondary Support Team: HOD - Commercial

- a. Shall inspect all stores and estimate loss or damages if any and take immediate action for reequipping the items.
- b. Coordinate with all HODs for requirements of consumables and spares.
- c. Request HR to post additional hands to take up massive procurement action.
- d. Discuss with CEO/Executive Director (Corp. Affairs) to ease norms of procurement for immediate supply of stores.

#### Incident Controller: HOD - Railway

- a. Shall depute teams of staff to check the condition of all railway track, Loco and signalling system.
- b. Condition shall be reported to CEO/Executive Director (Corp. Affairs) and take action to repair and resume operations.
- c. Coordinate with Indian Railway for resume the operation.
- d. Any help for repair and decommissioning may be taken from HOD ES.
- e. He shall also inspect the Locomotives of the Port, and arrange for trial running to put them into operation.

### Incident Controller: HOD – Operations [DC (MPT & WB), CT, LT]

- a. Shall inspect all stack yards and cargo sheds and estimate cargo loss and damages if any.
- b. The condition of stored hazardous/toxic cargo to be inspected along with HSE and immediate action as advised by HSE to be taken up.
- c. Deploy men and equipments to segregate and salvage all cargo.
- d. Coordinate with ES HOD, for assistance in de-watering and plot/shed repairs.
- e. Estimate the losses and damages along with BD and inform CEO/Executive Director (Corp. Affairs).
- f. Discuss with CEO/Executive Director (Corp. Affairs) and HODs for resumption of partial or full operations.
- g. Take all actions for early resumption of Port activities.
- h. Coordinate with HOD Marine to resume shipping operations.
- i. Coordinate with HOD Finance for insurance claims.
- j. All costly and critical materials are stacked properly to avoid loss due to Wind or water inundation.
- k. Inspect the loading and unloading arms and taken up repairs if any.
- I. Assess the damage, prepare report, and regularize equipment after trial.
- m. Assess damage of cargo and inform clients.
- n. Contaminated cargo to be disposed in consultation with the QHSE & F.

### Secondary Support Team: HOD – Finance & Accounts

#### Insurance Claims

- a. All HODs to prepare loss and damage list and estimate the costs of rectification and submit the same to HOD - Finance, who is the nodal officer for claiming insurance, with copies to CEO/ Executive Director (Corp. Affairs). The details shall contain photographs also.
- b. Shall coordinate with insurance company to arrange the Surveyor as quickly as possible, so that rectification work can start immediately.
- c. May coordinate with all HODs to prepare additional documents if required.
- d. May collect the details of claims with supporting documents from HODs in a time frame to be fixed by him for early settlement of all claims.
- e. Timely submission of insurance claims necessary for claiming losses.

### Primary Support Team: HOD – Security

- a. Restoration of road traffic & port entry system from and to the port disrupted due to the flood.
- b. Shall be well versed with all road communication of the area.
- c. Shall coordinate with local administration/State administration to clear the roads in consultation with Corporate Affairs.
- d. Port may also be required to engage men and machine to clear the road blockages.

### Secondary Support Team: CSR HOD – Adani Foundation [General Responsibilities]

The company has a social responsibly to save the life and property of the people living in the peripheral areas. This work involves the following activities. These activities may be done in association with local administration.

- a. Inform the public by public announcement the danger level of the flood and its effects and consequences.
- b. Leaflets are to be circulated about the danger level.
- c. If Tidal inundation is expected the villagers may be informed of the consequences.
- d. Request them to move to safer places to escape from heavy wind and tidal actions.
- e. Moving to Flood shelter is the best option. If flood shelter is not nearby, they may be asked to move to permanent structures available nearby. Provide them all assistance for evacuation.
- f. Provide the villagers adequate dry food (Chuda, Gudo, biscuits, baby food etc.) items and potable water in adequate quantity.
- g. Water tankers with potable water may be kept stand-by.
- h. Services of medical team may be extended to the peripheral villages with necessary medicines and first aids.
- i. Advise them to remain indoors during flood.
- After the flood there may be shortage of food and water.
- k. Water has to be provided for their basic needs till normalcy is established.
- Start community kitchens to provide them with food.
- m. Help in rehabilitation of all displaced people in coordination with local Govt. Agencies and NGOs.

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- → Position
- → Port position
- → Alternative
- → Secondary support team

In-charge -Telecommunication

- Take charge of all communication systems fixed and portable.
- Ensure availability of sufficient numbers of electronic communication equipment to the port control station, base control and anywhere else as necessary.

- Position
- → Port position
- Alternative
- → Secondary support team

In-charge - IT

- Take charge of all necessary communication system.
- Take all necessary back up of data.
- Assess damage of assets and restore.

### E Checklist

- Checklist for CEO/Executive Director (Corp. Affairs).
- Following checklists prepared which shall be used at the time of declaration of flood.

Checklist - 1	CEO/Executive Director (Corp. Affairs) (Corp. Affairs)
Checklist – 2	Marine Services
Checklist – 3	Engineering Services
Checklist – 4	Dry Cargo
Checklist – 5	Liquid Terminal
Checklist – 6	Container Terminal
Checklist – 7	HR & Admin
Checklist - 8	Security
Checklist – 9	Railway Services
Checklist – 10	West Basin
Checklist - 11	QHSE & F

	CEO - Emergency Preparedness			
	On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
	Emergency Control Room established at suitable location with communication facilities			
2	All teams have reported their readiness for dealing with emergencies.			
3	Testing of communication (PA System, Mega phones, VHF, UHF and Landline) with all on site Emergency Control Rooms.			
4	Assess the situation and declare emergency.			
5	Alarms sounded followed by verbal order by PA system.			
6	Evaluate transportation/evacuation/food arrangements.			
7	Confirm readiness of medical facilities.			
8	Liaise with government bodies, other stake holders and mutual aid, partners for providing support if necessary.			
9	Obtain status of situation from the government Emergency Control Room and disseminate information.			
10	Check level of high tide for the day and whether the drains in the port have been reported to be cleared for easy drainage of water.			
11	All vehicles topped up with fuel.			
12	Walkie Talkie sets fully charged along with spare charged batteries.			
13	Emergency numbers to be kept with all emergency vehicles			
14	List of emergency contacts & suppliers.			
15	All non-essential persons have been evacuated from the port.			
16	Roads and pathways are clear for emergency movement.			
17	All departments must maintain a diary to note down action taken.			
18	Readiness of de-watering pumps.			
During	Effective Period			
1	All personnel notified against venturing out during effective period, All personnel to remain indoor, observant and be alert.			
2	Take frequent updates from departments for any damage to property or injury to personnel.			
3	Provide necessary support by on site emergency team.			
4	If required operations to be suspended.			
After E	ffective Period			
	Announcement to be made declaring end of emergency or PA system and other means of communication.			
2	Advise emergency teams to carry out on-field assessment.			
3	Personnel to be advised not to enter damaged buildings/structures.			
4	Launch search and rescue operations for missing personal.			
5	Get reports on causalities and injuries to personnel. Arrange for medical assistance.			
6	Carry out assessment of damage to property and all high value assets within the port including ships.			
	Reports to be consolidated with photographs from all departments for insurance claims.			
8	Gradual resumption of port operation.			

Marine Services - Emergency Preparedness Level - 1:- Two Days before heavy rain expected as per weather forecast Flood - Checklist Before Effective Period Emergency team to be formed for dealing with the emergency Whether emergency team is in contact with Central Control Room for necessary preparedness. Emergency team, at the direction of CEO, to carry out the following tasks: identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; recovery operations All concerned employees and contractual staff informed. Contractor staff evacuated from the port and verified, Contractor informed to evacuate their staff. All personnel notified against venturing out during effective period. Electric equipment at jetty/tug berth is covered and protected against water ingress. Electric equipment at jetty/tug berth covered and protected against water ingress. Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Marine Building. Raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes, life buoys to be kept on stand-by for emergency use. Diving team and Marine Hydra to be on stand-by to provide assistant Stop to all permits to work. Arrangement made for stand-by vehicle. Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services) List of emergency contacts & suppliers available. Kept appropriate PPE's. Marine Control (MMPT & WB) WB Marine Control to issue weather bulletins every 6 Hrs. All vessel at berth and at anchorage are to be informed about weather condition. All equipments/computers in MMPT control to be covered and protected against water ingress due to heavy rain. All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure. Jetty Supervisor Jetty supervisor to check and ensure that all lines of vessels at berth are always kept taught. Vessel to be instructed to double up mooring lines, if required. Jetty Supervisor to brief all mooring crew to remain alert, careful and should move in pairs. No mooring crew to stand close to the berth.

	Marine Services - Emergency Preparedness			
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	Emergency team formed for dealing with the emergency			
2	Whether emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All concerned employees and contractual staff informed.  Contractor staff evacuated from the port and verified,  Contractor informed to evacuate their staff.  All personnel notified against venturing out during effective period.			
5	All operations must be stopped and personnel moved to a safe location from where they can be evacuated Transportation arranged for evacuation of staff (employees and contractual staff)			
6	Electric equipment at jetty/Tug berth covered and protected against water ingress.			
7	All loose items on jetty are secured.			
8	Adequate drinking water and dry non perishable food at Marine Building.			
9	Adequate no of raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes , life buoys to be kept on stand-by for emergency use.			
10	Diving team and Marine Hydra on stand-by to provide assistant when required.			
11	Stop all work permits.			
12	Arrangement made for stand by vehicle.			
13	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
14	List of emergency contacts & suppliers available.			
15	Raincoats- 6 nos, gumboots- 6 nos, helmets- 6 nos, gantline- 50 meter x 6 nos available.			
Marine	Control (MMPT & WB)			
	Weather bulletins issued by WB Marine Control every 6 Hrs.			
2	Vessel at berth and at anchorage are informed about weather condition.			
3	All equipments/computers in MMPT control covered and protected against water ingress due to heavy rain.			
4	Hand held UHF/batteries, emergency torch, mobile phone fully charged for use in emergency in case of total power failure.			
Jetty S	upervisor			
1	Jetty supervisor checked and ensure that all lines of vessels at berth are always kept taught. Vessel to be instructed to double up mooring lines, if required.			
2	Jetty Supervisor to brief all mooring crew to remain alert, careful and should move in pairs. No Mooring Crew to stand close to the berth.			

Durin	During Effective Period			
1	All personnel to be notified against venturing out during effective period.			
2	Avoid taking shelter near old or damaged buildings or near tress.			
3	Avoid standing near sea side.			
4	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.			

	Engineering Services-MPT - Emergency Prepared	ness		
	Level - 1 :- Two Days before heavy rain expected as per wea		recas	t
	Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	ES-MPT Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness			
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	People are made aware of do's and don'ts before, during and after flood			part of training. List of do's and don'ts enclosed
5	Coordination with labour contractors for making necessary arrangements towards evacuation of labours (Approx. 400 No's) deployed at FCC, Conveyor, Jetty, Steel Yard & Liquid Terminal. Actual evacuation to be done only after port shutdown is declared from CEO office			List of average manpower in port on normal operation day is enclosed
6	All drains are cleared of blockades and sluice gates are kept open.			
7	Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location			
8	All existing emergency equipment such de-watering pump, DG set should be properly maintained & ready to use condition as may be required by operation dept. Pump at south basin bund shall be in maintained condition			
9	Drinking water (10 bottles of 20 ltr) and dry non perishable food available for 30 people (2 days) at Tug berth building and FCC control room			
10	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.			
11	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
12	List and contact details of customers, contractors and port emergency contacts is kept ready with FCC control room and DC coordination desk.			

ES -M	ES -MPT Coordination desk				
1	To circulate weather bulletins (issue by Martine Control) every 12 Hrs to all external contractor.				
2	To appraise ES-MPT shift Incharges every 12 hrs who in turn will appraise their reportees & colleagues				
3	All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency incase of total power failure. All existing emergency equipment such de-watering pump, DG set etc should be properly maintained & ready to use condition as may be required by operation dept.				
4	All clients are intimated against potential flood threat to proceed with their insurance formalities.				
5	Keep pictorial records of the sequence of events and preparedness( For Insurance Purpose)			For insurance purpose	

Engineering Services-MPT - Emergency Preparedness				
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	ES-MPT emergency team representatives deployed at Adani House,FCC Control room and ES-MPT coordination desk as per plan			
2	ES-MPT Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
3	ES-MPT emergency team representatives of FCC control room , DG House /substation , workshop & ES -MPT coordination desk is handy with VHF sets , Emergency Torches, Rain Coat			
4	Central control room (Adani House) issues port closure notice			
5	All normal operations stopped. Only emergency operations (securing of MHC/goliath/LMC/equipment/hoppers/dumpers/trailers) to be continued			
6	Transportation arranged for evacuation of non essential staff (employees and contractual staff)			
7	Only ES-MPT Emergency team members to remain in the port.			
8	2 pilot vehicles stand-by near tug berth building and FCC control room/ES-MPT coordination desk			
9	All existing emergency equipment such de-watering pump, DG set, excavator, hydra etc should be ready for deployment as per requirement			
10	Drinking water (10 bottles of 20 litre) and dry non perishable food available for 30 people (2 days) at Tug berth building and FCC control room			
11	Emergency Kit is ready and checked			
12	Communication mediums like VHF, Mobile phones and PA systems checked and tested			

13	Emergency team in continous contact with other emergency services ( such as QHSE & F, security, other services)		
14	List and contact details of contractors and port emergency contacts to be kept ready with FCC control room, DG houses, sub station, workshop and ES-MPT cordination desk		
ES-MP	T Coordination desk		
1	To circulate weather bulletins (issue by Martine Control) every 12 Hrs to all external contractor		
2	To take feedback of evacuation process and highlight progress/ issues emergency team.		
3	All computers/peripherals in MPT control to be covered and protected against water ingress due to heavy rain		
During	Effective Period		
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employees are present		
2	All personnel to be notified against venturing out during effective period		
3	Do not taking shelter in low lying areas, old or damaged buildings, near tress and temporary structures		
4	Shelter to be taken on higher ground		
5	Avoid standing near sea side		
After E	ffective Period		
1	Take headcount of all the personnel (FCC, backup, steel yard, jetty & tug berth building)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury		
4	Assess damage to equipment, resources and cargo		
5	Initiate restart process		
6	Photographs to be taken for assessing damages to cargo and property for insurance		

	Dry Cargo - Emergency Preparedness				
	Level - 1 :- Two Days before heavy rain expected as per weather forecast				
	Flood - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
1	Dry Cargo Emergency team formed for dealing with the emergency				
2	Emergency team is in contact with Central Control Room for necessary preparedness.				
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations				

## People are made aware of do's and don'ts before, during and after flood.  ## after flood.  ## Coordination with labour contractors for making necessary arrangements towards evacuation of labours (approx. 650 No's), drivers (150 no's), surveyors (120 no's) and equipment operators (75 no's) deployed at face, maruti, steel layrd, steevedoring and backup. Actual evacuation to be done only after port shutdown is declared from ceo office  ### All drains are cleared of blockades and sluice gates are kept open.  ### Cargo is secured inside warehouses and Open Plots, Cargo is covered near gates inside warehouses and Open Plots, Cargo is covered near gates inside warehouses and open thial leakage points.  ### Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.  ### Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.  ### Pervatering pumps are placed at all low level areas (steel yard , CO-10 main road, old admin building).  ### Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses.  ### Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses.  ### Drinking water (10 bottles of 20 ltr) and dry non perishable food available for 30 people (2 days) at tug berth building and FCC control room  ### Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, trist aid kit emergency ford and water, essential medicines, whistle, etc.  ### Emergency kein in continuous contact with other emergency emergency contacts is kept ready with FCC control room and DC Coordination desk.  ### Dry Cargo Coordination desk  ### All clients are intimated against potential flood threat to proceed with their insurance in emergency incase of total power failure.  ### All clients are intimated against potentia				
arrangements towards evacuation of labours (approx. 650 No's), drivers (150 no's), surveyors (120 no's) and equipment operators (75 no's) deployed at fcc, maruti, steel yard, stevedoring and backup.  Actual evacuation to be done only after port shutdown is declared from coe office  6 All drains are cleared of blockades and sluice gates are kept open.  7 Cargo is secured inside warehouses and Open Plots. Cargo is covered near gates inside warehouses and potential leakage points.  8 All non operating godown gates are kept closed and secured with bentiinte walls.  9 Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.  10 Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location  11 De-watering pumps are placed at all low level areas (steel yard , CG-10 main road, old admin building)  12 Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses.  13 Drinking water (10 bottles of 20 lt) and dry non perishable food available for 30 people (2 days) at tug berth building and FCC control room  14 Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.  15 Emergency keam in continuous contact with other emergency services (such as QHSE & F. Security, other services)  16 List and contact details of customers, contractors and port emergency contacts is kept ready with FCC control room and DC Coordination desk.  Dry Cargo Coordination desk  1 To circulate Weather Bulletins (ssue by Martine Control) every 12 Hrs to all external customers.  2 To appraise Jetty/Backup and FCC shift Incharges every 12 hrs who in turn will appraise their reportees.  3 All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency incase of total power failure.  4 All clients are intimated against potential f	4			List of do's and
7 Cargo is secured inside warehouses and Open Plots. Cargo is covered near gates inside warehouses and potential leakage points. 8 All non operating godown gates are kept closed and secured with bentinite walls. 9 Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding. 10 Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location 11 De-watering pumps are placed at all low level areas (steel yard , CG-10 main road, old admin building) 12 Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses. 13 Drinking water (10 bottles of 20 ltr) and dry non perishable food available for 30 people (2 days) at tug berth building and FCC control room 14 Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first ald kit emergency food and water, essential medicines, whistle, etc. 15 Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services) 16 List and contact details of customers ,contractors and port emergency contacts is kept ready with FCC control room and DC Coordination desk. 1 To circulate Weather Bulletins (issue by Martine Control) every 12 Hrs to all external customers. 2 To appraise Jetty //Backup and FCC shift Incharges every 12 hrs who in turn will appraise their reportees. 3 All hand held VHF/batteries. Emergency torch, Mobile Phones are fully charged for use in emergency incase of total power failure. 4 All clients are intimated against potential flood threat to proceed with their insurance formalities. 5 Keep pictorial records of the sequence of events and preparedness(	5	arrangements towards evacuation of labours (approx. 650 No's), drivers (150 no's), surveyors (120 no's) and equipment operators (75 no's) deployed at fcc, maruti, steel yard, stevedoring and backup. Actual evacuation to be done only after port shutdown is declared		manpower in port on normal operation day is
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charged for use in emergency incase of total power failure.  4 All clients are intimated against potential flood threat to proceed with their insurance formalities.  5 Keep pictorial records of the sequence of events and preparedness(  For insurance	2			
with their insurance formalities.  5 Keep pictorial records of the sequence of events and preparedness(  For insurance	3			
	4			
	5			

	Dry Cargo - Emergency Preparedness			
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
	Activity	Yes	No	Remarks
Before	Effective Period			
1	Dry cargo emergency team representatives deployed at Adani House, Marine Control Room, FCC Control room and Dry Cargo coordination desk.			
2	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
3	FCC control room and DC coordination desk is handy with VHF sets , Emergency Torches, Rain Coat.			
4	Central control room (Adani House) issues Port closure notice			
5	All normal operations stopped. Only emergency operations (securing of MHC/Goliath/LMC/ equipment/Hoppers/dumpers/trailers) to be continued.			
6	Transportation arranged for evacuation of non essential staff (employees and contractual staff)			
7	All godown gates to be kept closed and secured with bentonite walls.			
8	Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding.			
9	Only Emergency team members to remain in the port.			
10	2 pilot vehicles stand-by near Tug berth building and FCC control room.			
11	De-watering pumps to be placed at all low level areas ( Steel Yard , CG-10 main road, Old admin building)			
12	Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses.			
13	Drinking water (10 bottles of 20 litre) and dry non perishable food available for 30 people (2 days) at Tug berth building and FCC control room			
14	Emergency Kit is ready and checked			
15	Communication mediums like VHF, Mobile phones and PA systems checked and tested			
16	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
17	List and contact details of customers ,contractors and port emergency contacts to be kept ready with FCC control room and DC Coordination desk			
Dry Ca	rgo Coordination desk			
1	To circulate weather bulletins (issue by Martine Control) every 12 hrs to all external customers			
2	To take feedback of evacuation process and highlight progress/ issues emergency team			
3	All computers/peripherals in MPT control to be covered and protected against water ingress due to heavy rain			

During	Effective Period				
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present				
2	All personnel to be notified against venturing out during effective period				
3	Do not taking shelter in low lying areas, old or damaged buildings, near tress and temporary structures				
4	Shelter to be taken on higher ground				
5	Avoid standing near sea side				
After Effective Period					
1	Take headcount of all the personnel. (FCC, backup, steel yard, jetty & tug berth building)				
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing				
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury.				
4	Assess damage to equipment, resources and cargo.				
5	Initiate restart process.				
6	Photographs to be taken for assessing damages to cargo and property for insurance.			For insurance purpose	
7	Communication to be sent to all clients regarding assessed and potential damage to cargo.				

Liquid Terminal - Emergency Preparedness							
Level - 1 :- Two Days before heavy rain expected as per weather forecast							
Flood - Checklist							
Sr. No.	Activity	Yes	No	Remarks			
Before Effective Period							
1	Emergency team formed for dealing with the emergency						
2	Emergency team is in contact with Central Control Room for necessary preparedness.						
3	Emergency team, at the direction of CEO, to carry out the following tasks: Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations						
4	All concerned employees and contractual staff informed. All personnel notified against venturing out during effective period.						
5	A team is formed to identify and removal of items from jetty which may fall into sea due to strong wind such as life buoy with stand, gangway etc.						
6	Electric equipment at jetty/Tug berth covered and protected against water ingress.						
7	Oil Spill Management Plan is activated.						
8	Drinking water (10 bottles of 20 ltr) and dry non perishable food available at Liquid Building.						

9	11 Nos of raincoats, charged emergency torches, 2 battery operated torches with spare batteries, 6 life jackets, ropes (50 meters $\times$ 6), life buoys available for emergency use.		
10	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
11	List of emergency contacts & suppliers available.		
12	Kept appropriate PPE's.		
Liquid	Control (CTF and VEG Oil)		
1	Co-ordinate with Marine Control for weather bulletins every 6 hrs		
2	Inform all contractors to remove all their equipment from liquid terminal area and put proper location		
3	Vessel at berth and at anchorage informed about cyclone warning		
4	All hand held UHF/batteries, emergency torch, mobile phones are fully charged for use in emergency incase of total power failure		
5	Check & clean of dyke wall for all tanks. (Ensue valves of dyke wall are in open condition)		
6	Floating roof tank ensure the tank roof draining system valves must be in open condition		
7	All storage tanks shell and roof manholes to be box up		
8	Material (i.e. oil drums, sludge tanks etc.) & equipment that cannot be moved are to be covered		
9	Check earthing of pipelines & tanks with help of ESE & I		
10	Clean the spillage material to prevent slippery surface		
11	All storm water drainage system(sumps and clear passage of line) should be clean and cover properly		
12	Electric machinery is covered and protected against water ingress.		
Jetty S	Supervisor		
1	Jetty supervisor to ensure all lines of vessels at berth are always kept tight		
2	Jetty Supervisor briefed all workers/labors be alert, careful and to move in pairs. No one to stand close to the berth		
3	All hydra and jetty/technical vehicles parked at safe shelter		
4	Safe guard all loose material including Hose and drums and other loose material		

	Liquid Terminal- Emergency Preparedness						
	Level - 2 :- On the day when rainfall starts						
	Heavy Rain - Flood - Checklist						
Sr. No.	Activity	Yes	No	Remarks			
Before	Effective Period						
1	Emergency team formed for dealing with the emergency						
2	Whether emergency team is in contact with Central Control Room for necessary preparedness.						
3	Emergency team, at the direction of CEO, to carry out the following tasks: Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations						

4	All concerned employees and contractual staff informed Contractor staff evacuated from the port and verified, Contractor informed to evacuate their staff		
	All personnel notified against venturing out during effective period		
5	All operations must be stopped and personnel moved to a safe location from where they can be evacuated		
	Transportation arranged for evacuation of staff (employees and contractual staff)		
6	Electric equipment at jetty/tug berth covered and protected against water ingress.		
7	All loose items on jetty are secured.		
8	Adequate drinking water and dry non perishable food at Liquid Building.		
9	Adequate no of raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes, life buoys to be kept on stand-by for emergency use.		
10	Stop all work permits.		
11	Arrangement made for stand-by vehicle.		
12	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
13	List of emergency contacts & suppliers available.		
14	Raincoats-11 nos, gumboots- 11 nos, helmets- 11 nos		
15	List of emergency contacts & suppliers available.		
16	Kept appropriate PPE's.		
Liquid	Control (CTF and VEG Oil)		
1	Co-ordinate with Marine Control for weather bulletins every 6 hrs.		
2	Stop all activities, remove all tanker Lorries from liquid terminal and do not allow any tanker Lorries to enter the liquid terminal area.		
3	All vessel at berth informed about weather warning in coordination with Marine.		
4	Vessels at berth are to be informed to keep Main Engine on stand-by for emergency castoff at short notice		
5	All equipment/computers in control to be covered and protected against water ingress due to heavy rain		
6	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure		
7	All storage tanks shell and roof manholes to be box up		
8	Ensure flange joint connections are tightened		
9	Check foundation of all tank & pumps		
10	Remove all employees from operational activities		
11	Ensure Oil Spill Management Plan is activated in case of flood		
12	Adequate drinking water and dry non perishable food at jetty area		
13	All electrical and diesel driven pumps should be ready in all respects for immediate use		
14	Ensure roads and pathways are cleaned and not obstruct for any vehicle movement during emergency		
15	Safe guard surface heat tracing system of pipeline		
Jetty 9	Supervisor		
1	Jetty supervisor to ensure all lines of vessels at berth are always kept tight		
2	Jetty supervisor briefed all workers/labors be alert, careful and to move in pairs. No one to stand close to the berth		
3	All hydra and jetty/technical vehicles parked at safe shelter		
4	Safe guard all loose material including hose and drums and other loose material		

During Effective Period				
1	All personnel to be notified against venturing out during effective period			
2	Avoid taking shelter near old or damaged buildings or near tress			
3	Avoid standing near sea side			
4	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present			

	Container Terminal - Emergency Preparedness	;		
	Level - 1 :- Two Days before heavy rain expected as per wea		recas	t
	Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
	Emergency team formed for dealing with the emergency			
2	Whether emergency team is in contact with Central Control Room for necessary preparedness			
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All concerned employees and contractual staff to be informed Contractor staff to be evacuated from the port and verified All personnel to be notified against venturing out during effective period			
5	Electric equipment is covered and protected against water ingress			
6	adequte Drinking water and dry non perishable food available at CT operation buildings			
7	Raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes, life buoys to be kept ready for emergency use.			
8	Stop all work.			
9	Arrange for stand-by vehicle.			
10	Emergency team to be in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
11	List of emergency contacts & suppliers available.			
12	Kept appropriate PPE's.			
CT2 ar	nd CT3 Control Room			
1	CT2 and CT3 Control communicate Weather Bulletins every 6 Hrs.			
2	All hand held UHF/batteries, emergency torch, mobile phone to be fully charged for use in emergency incase of total power failure.			
Wharf	Supervisor			
	Wharf supervisor to check and ensure that all lines of vessels at berth are always kept taught. Vessel to be instructed to double up mooring lines, if required.			
2	Jetty supervisor to brief all mooring crew to remain alert, careful and should move in pairs. No mooring crew to stand close to the berth.			

	Container Terminals - Emergency Preparedness	S		
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	Emergency team formed for dealing with the emergency			
2	Whether emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks: Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	All concerned employees and contractual staff to be informed Contractor staff to be evacuated from the port and verified All personnel to be notified against venturing out during effective period			
5	All operations must be stopped and personnel moved to a safe location from where they can be evacuated Transportation arranged for evacuation of staff (employees and contractual staff)			
6	Electric equipment covered and protected against water ingress.			
7	All loose items in terminals are secured.			
8	Adequate drinking water and dry non perishable food at CT Operation Buildings.			
9	Adequate no of raincoats, charged emergency torches, battery operated torches with spare batteries, life jackets, ropes, life buoys to be kept on stand-by for emergency use.			
10	Stop all work permits.			
11	Arrangement made for stand-by vehicle.			
12	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
13	List of emergency contacts & suppliers available.			
14	Raincoats- 6 Nos, Gumboots- 6 Nos, Helmets- 6 Nos, Gantline- 50 meter x 6 Nos available.			
CT2 ar	d CT3 Tower Control			
1	Weather Bulletins Communicated by CT Control every 3 Hrs.			
2	All equipments/computers in CT control covered and protected against water ingress due to heavy rain.			
3	Hand held UHF/batteries, emergency torch, mobile phone fully charged for use in emergency in case of total power failure.			
Wharf	Supervisor			
1	Wharf supervisor checked and ensure that all lines of vessels at berth are always kept taught. Vessel to be instructed to double up mooring lines, if required.			
2	Wharf Supervisor to brief all to remain alert, careful and should move in pairs. No Mooring Crew to stand close to the berth.			

During Effective Period				
1	All personnel to be notified against venturing out during effective period.			
2	Avoid taking shelter near old or damaged buildings or near tress.			
3	Avoid standing near sea side.			
4	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.			

	Administration - Emergency Preparedness					
	Level - 1 :- Two Days before heavy rain expected as per weather forecast					
	Flood - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
1	Emergency team formed for dealing with the emergency					
2	Emergency team is in contact with Central Control Room for necessary preparedness.					
3	Emergency team, at the direction of Head Administration to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources;					
4	All concerned employees and contractual staff informed Contractor staff to be evacuated from the port and verified All personnel to be notified against venturing out during effective period					
5	Drinking water (50 bottles of 20 ltr) and dry non perishable food available at all Canteens					
6	10 Nos of raincoats, 06 nos. charged emergency torches, 06 battery operated torches with spare batteries in each control room, ropes (50 meters) in each buses available for emergency use					
7	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)					

	Administration - Emergency Preparedness					
	Level - 2 :- On the day when rainfall starts					
	Heavy Rain - Flood - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
1	Emergency team formed for dealing with the emergency					
2	Whether emergency team is in contact with Central Control Room for necessary preparedness.					
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations					

4	Drinking water (50 bottles of 20 ltr) and dry non perishable food available at all Canteens		
5	All concerned employees and contractual staff informed. Contractor staff evacuated from the port and verified, Contractor informed to evacuate their staff. All personnel notified against venturing out during effective period.		
6	All operations must be stopped and personnel moved to a safe location from where they can be evacuated Transportation arranged for evacuation of staff (employees and contractual staff)		

	Security Services - Emergency Preparedness			
	Level - 1 :- Two Days before heavy rain expected as per wea	ther fo	recas	t
	Flood - Check List			
Sr. No.	Activity	Yes	No	Remarks
Genera	l Points			
1	Obtain status of flood at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures			
2	Establishment of Emergency Control Room at suitable location with communication facilities			
3	A team is to be formed for emergency.			
4	All vehicles to be topped up with fuel – prior to effective period and top up on daily basis.			
5	Walkie talkie sets to be fully charged along with stand-by batteries			
6	Keep mobiles (personal/official) fully charged			
7	Ensure emergency lights are functioning			
8	Ensure mega phones are functioning (change old batteries)			
9	Ensure public announcement (PA system) on ERT vehicle is functioning			
10	Ensure Digital Cameras and Handy Cam fully charged.(ERT, PSC, MSB, MWB)			
11	Ensure security guards in possession of all PPEs and whistle			
12	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), At respective gate & 01 at ISCR,			
13	Traffic Cone to be removed and kept in closed room, it may float and hit with some object			
14	Frontier from roads to be removed and kept in Covered Godown in stacking mode.			
15	Search lights to be kept ready dully functional.			
16	Hammer and cutting tools (available with Fire Dept).			
17	Bottled drinking water to kept in all emergency vehicles			
18	First Aid Box to be kept with all emergency vehicles dully updated from medical wing.			
19	Emergency numbers to be kept with all emergency vehicles			
20	Security Reinforcement to be kept ready at Guards colony with due provision of transport (whichever transport mode is available).			
21	Alternate route for Hospital and other locations to be checked and available with all emergency teams.			

22	Detailed briefing of security guards to be carried out		
23	Communication to be done as per requirement (to save battery of mobile & VHF)		
24	Removal of security guard from remote and isolated location as per instruction of ISCR.		
25	Ensure rain coat available with all Security personnel on duty		
26	List of emergency contacts & suppliers.		
27	Material & equipment that cannot be moved are to be covered.		
28	Hoist appropriate storm warning Signal.		
29	Remove all loose materials and equipment from jetty & other area.		
30	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings).		
31	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels		
32	Ensure roads and pathways are cleaned		
33	Air filled tubes, bamboos & air filled boats to be kept ready for evacuation.		To be kept centrally

	Security Services - Emergency Preparedness			
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
Genera	al Points			
1	Obtain status of flood at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures			
2	Establishment of Emergency Control Room at suitable location with communication facilities			
3	A team is to be formed for emergency.			
4	All vehicles to be topped up with fuel – prior to effective period and top up on daily basis.			
5	Walkie talkie sets to be fully charged along with stand-by batteries			
6	Keep mobiles (personal/official) fully charged			
7	Ensure emergency lights are functioning			
8	Ensure mega phones are functioning (change old batteries)			
9	Ensure public announcement (PA system) on ERT vehicle is functioning			
10	Ensure Digital Cameras and Handy Cam fully charged.(ERT, PSC, MSB, MWB)			
11	Ensure security guards in possession of all PPEs and whistle			
12	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), At respective gate & 01 at ISCR,			
13	Traffic Cone to be removed and kept in closed room, it may float and hit with some object			
14	Frontier from roads to be removed and kept in Covered Godown in stacking mode.			
15	Search lights to be kept ready dully functional.			
16	Hammer and cutting tools (available with Fire Dept).			
17	Bottled drinking water to kept in all emergency vehicles			

18	First Aid Box to be kept with all emergency vehicles dully updated from medical wing.	
19	Emergency numbers to be kept with all emergency vehicles	
20	Security Reinforcement to be kept ready at Guards colony with due provision of transport (whichever transport mode is available).	
21	Alternate route for Hospital and other locations to be checked and available with all emergency teams.	
22	Detailed briefing of security guards to be carried out	
23	Communication to be done as per requirement (to save battery of mobile & VHF)	
24	Removal of security guard from remote and isolated location as per instruction of ISCR.	
25	Ensure rain coat available with all Security personnel on duty	
26	List of emergency contacts & suppliers.	
27	Material & equipment that cannot be moved are to be covered.	
28	Hoist appropriate storm warning Signal.	
29	Remove all loose materials and equipment from jetty & other area.	
30	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings).	
31	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels	
32	Ensure roads and pathways are cleaned	
33	Air filled tubes, bamboos & air filled boats to be kept ready for evacuation	To be kept centrally
During	Effective Period	
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present	
2	All personnel to be notified against venturing out during effective period	
3	All personnel to remain indoor, observant and be alert	
4	Avoid taking shelter near old or damaged buildings or near tress	
5	All doors and windows to be shut	
6	Avoid the top floor of buildings. Stay close to ground floor	
7	Close the visitors' gate	
8	Occupy pre-determined post for controlling security of installation	
9	Call up additional help from Barracks	
10		
	Ensure that unauthorized persons/vehicles do not enter the gate	
11	Ensure that unauthorized persons/vehicles do not enter the gate  Provide security men for firefighting & rescue	
11	Provide security men for firefighting & rescue	
11 12	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal	
11 12 13	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center	
11 12 13 14	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster	
11 12 13 14 15	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster  Produce a list of port staff on duty in co-ordination with time office  Ensure availability of security men at gates so that they can lead	
11 12 13 14 15 16	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster  Produce a list of port staff on duty in co-ordination with time office  Ensure availability of security men at gates so that they can lead authorities to disaster site	
11 12 13 14 15 16	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster  Produce a list of port staff on duty in co-ordination with time office  Ensure availability of security men at gates so that they can lead authorities to disaster site  Ensure that non-essential persons do not crowd affected area	
11 12 13 14 15 16 17	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster  Produce a list of port staff on duty in co-ordination with time office  Ensure availability of security men at gates so that they can lead authorities to disaster site  Ensure that non-essential persons do not crowd affected area  Instruct all drivers to take shelter at canteens (concrete buildings)	
11 12 13 14 15 16 17 18 19	Provide security men for firefighting & rescue  Arrange for transport of higher authorities to the terminal  Transport vehicles would be provided near emergency control center  Depute security guards for controlling traffic at scene of disaster  Produce a list of port staff on duty in co-ordination with time office  Ensure availability of security men at gates so that they can lead authorities to disaster site  Ensure that non-essential persons do not crowd affected area  Instruct all drivers to take shelter at canteens (concrete buildings)  Ensure vehicles are parked at designated parking areas, with wheels blocked  Close the gate and stop allowing visitors and transport trucks either inward	

After	After Effective Period			
1	Assess damage to equipment, building and unsafe condition.			
2	Do not enter in damaged buildings			
3	Use Mobile Phones only for emergency calls			
4	Start search operation for Living Things			
5	Do not use any damaged electronic goods			
6	Drink boiled water			
7	Confirm with concerned about situation of flood before you move out.			
8	Start restorative measures & repairs.			

	Railway Services - Emergency Preparedness			
	Level - 1 :- Two Days before heavy rain expected as per wea	ther fo	recasi	
	Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
1	Railway Emergency team formed for dealing with the emergency			
2	Emergency team is in contact with Central Control Room for necessary preparedness.			
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
4	People are made aware of do's and don'ts before, during and after flood.			part of training. List of do's and don'ts enclosed
5	Coordination with labour contractors for making necessary arrangements towards evacuation of labours (Approx. 250 No's), Employees and Indian Railway Personel . Actual evacuation to be done only after port shutdown is declared from CEO office			List of average manpower in port on normal operation day is enclosed
6	All drains are cleared of blockades and sluice gates are kept open			
7	Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location			
8	De-watering pumps are placed at all low level areas (Railway yard of west Basin and MDCC MPT)			
9	Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses.			
10	Drinking water (10 bottles of 20 ltr) and dry non perishable food available for 30 people (2 days) at Railway control Room at MDCC MPT and all Railway Stations are Likely to be affected			
11	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc.			
12	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)			
13	List and contact details of customers ,contractors and port emergency contacts is kept ready with Railway control Room			

Railwa	Railway Services - Emergency team Coordinator			
1	To circulate weather bulletins (issue by Martine Control) every 12 hrs to all external customers			
2	To appraise Railway yard and Loco Shed every 12 hrs who in turn will appraise their reportees			
3	All hand held VHF/batteries, Emergency torch, Mobile Phones are fully charged for use in emergency incase of total power failure			
4	All clients are intimated against potential flood threat to proceed with their insurance formalities			
5	Keep pictorial records of the sequence of events and preparedness(For Insurance Purpose)			For insurance purpose

	Railway Services - Emergency Preparedness			
	Level - 2 :- On the day when rainfall starts			
	Heavy Rain - Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	Railway emergency team representatives deployed at Adani House, Marine Control Room, FCC Control room			
2	Emergency team, at the direction of CEO, to carry out the following tasks: develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations			
3	Railway control Room at MDCC MPT is handy with VHF sets, emergency torches, rain coat			
4	Central control room (Adani House) must issue Port closure notice			
5	All normal operations stopped. Only emergency operations to evacute Locomotive and wagons at safe places in Railway Yard.			
6	Transportation arranged for evacuation of non essential staff (employees and contractual staff)			
7	Only Emergency team members to remain in the port.			
8	2 Vehicles stand-by near railway building and FCC control room.			
9	De-watering pumps are placed at all low level areas (Railway yard of west Basin and MDCC MPT)			
10	Arrangement of two mobile de-watering pumps to evacuate water from inside rail track areas.			
11	Drinking water (10 bottles of 20 litre) and dry non perishable food available for 30 people (2 days) at Railway control room of MDCC MPT and West Basin.			
12	Emergency kit is ready and checked			
13	Communication mediums like VHF, mobile phones and PA systems checked and tested			
14	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services).			
15	List and contact details of customers, contractors and port emergency contacts to be kept ready with FCC control room and DC coordination desk.			

Railwa	y Services - Emergency team Coordinator		
	To circulate weather bulletins (issue by Martine Control) every 12 hrs to all external customers.		
2	To take feedback of evacuation process and highlight progress/ issues emergency team.		
3	All computers/peripherals in MPT and West Basin control Room to be covered and protected against water ingress due to heavy rain.		
During	Effective Period		
	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.		
2	All personnel to be notified against venturing out during effective period.		
3	Do not taking shelter in low lying areas, old or damaged buildings, near tress and temporary structures.		
4	Shelter to be taken on higher ground		
5	Avoid standing near sea side.		
After 8	Effective Period		
	Take headcount of all the personnel (Railway Control Room of MDCC MPT and West Basin)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury		
4	Assess damage to equipment, resources and cargo		
5	Initiate restart process		
6	Photographs to be taken for assessing damages to cargo and property for insurance		For insurance purpose
7	Communication to be sent to all clients regarding assessed and potential damage to cargo		

	WEST BASIN - EMERGENCY PREPAREDNESS				
	Level 1: Two Days Before Heavy Rain Expected As Per Weather Forecast				
	Flood - Checklist				
Sr. No.	Activity	Yes	No	Remarks	
Genera	al .				
1	HODs have a meeting above the impending emergency steps				
2	Emergency team is in contact with Central Control Room. Also the team should assist to all concen department as per instructions from concern HODs and Head- West Basin.				
3	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations all visitors will be stopped.				

4 People are made aware of do's and don'ts before, during and after flood  5 Coordination with labour contractors for making necessary arrangements towards evacuation of labours, drivers, surveyors and don'ts enclosed  6 All drains are cleared and outlets are opened  6 All drains are cleared and outlets are opened  7 Cargo is secured inside warehouses and open Plots. Cargo is covered near gates inside warehouses and potential leakage points  8 All non operating godown gates are kept closed and secured with benthinte walls  9 Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding  10 Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location  11 De-watering pumps are placed at certain areas (Workshops, Fire pump-house etc).  12 Minimum number of operators and drivers to be remain in a shift; A) Crane Operators - 4 Nos C) Exevator Operators - 4 Nos C) Exevator Operators - 1 Nos C) Expander Operators - 1 Nos C) Expander Operators - 1 Nos C) Hydro Operator - 1 Nos C) Utility Orivers - 4 Nos C) Expander (Operators - 4 Nos C) Utility Orivers - 4 Nos C) Expander (Operators - 4 Nos C) Utility Orivers - 4 Nos C) Expander (Operators - 4 Nos				
arrangements towards evacuation of labours, drivers, surveyors and equipment operators deployed at vessel, yard, back-up area, silo. Actual evacuation to be done only after port shutdown which will be declared from CEO office  All drains are cleared and outlets are opened  Cargo is secured inside warehouses and open Plots. Cargo is covered near gates inside warehouses and potential leakage points  All non operating godown gates are kept closed and secured with bentiintle walls  Stell cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding  Dervacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location  De-watering pumps are placed at certain areas (Workshops, Fire pump-house etc)  Minimum number of operators and drivers to be remain in a shift; A) Crane Operators - 3 Nos C) Excevator Operators - 4 Nos C) Excevator Operators - 4 Nos C) Excevator Operators - 1 Nos C) Excevator Operators - 1 Nos C) Hydra Operator - 1 Nos C) Utility Drivers - 3 Nos D) Forklift Operators - 1 Nos D) Hydra Operator - 1 Nos C) Utility Drivers - 3 Nos D) LO Operator - 1 Nos C) Utility Drivers - 3 Nos D) LO Operator - 1 Nos C) Utility Drivers - 3 Nos D) LO Operator - 1 Nos C) Utility Drivers - 4 Nos C) Excevator Operator - 1 Nos C) Utility Drivers - 4 Nos C) Excevator Operator - 1 Nos C) Utility Drivers - 4 Nos C) Exception of the staff to be deputed at West Basin during emergency after finalization with respect to the staff to be deputed at West Basin during emergency after finalization with respective HODs and Head - West Basin Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operator adio and extra batteries, first aid kit emergency food and water, essential medicines, whistie, etc.  Emergency takin in continuous contact with other emergency contacts is kept ready with with Central Control Room Emergency contacts is kept ready with with Cen	4			List of do's and
Cargo is secured inside warehouses and open Plots. Cargo is covered near gates inside warehouses and potential leakage points  All non operating godown gates are kept closed and secured with bentinite walls  Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding  Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location  De-watering pumps are placed at certain areas (Workshops, Fire pump-house etc)  Minimum number of operators and drivers to be remain in a shift; A) Crane Operators - 4 Nos D) Forklift Operators - 4 Nos D) Forklift Operators - 1 Nos F) Trailer Driver - 1 Nos F) Trailer Driver - 1 Nos F) Trailer Driver - 1 Nos F) Trailer Operator - 4 Nos D) Forklift Operator - 4 Nos D) Jorklift Operator - 4 Nos D) Forklift Operator - 5 Nos D) Forklift Operator - 6 Nos D) Forklift Operator - 1 Nos D) Forklift Operator - 2 Nos D) Forklift Operator - 1 Nos D) Forklift Operator - 2 Nos D) Forklift O	5	arrangements towards evacuation of labours, drivers, surveyors and equipment operators deployed at vessel, yard, back-up area, silo.  Actual evacuation to be done only after port shutdown which will be		
All non operating godown gates are kept closed and secured with bentinite walls  Steel cargo is properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding  Portacabins are secured properly and relocation of electronic equipment from various porta cabins to designated location  De-watering pumps are placed at certain areas (Workshops, Fire pump-house etc)  Minimum number of operators and drivers to be remain in a shift; A) Crane Operators - 3 Nos B) Loader Operators - 4 Nos C) Excavator Operators - 4 Nos D) Forklift Operators - 1 Nos E) Hydra Operator - 2 Nos F) Trailer Driver - 1 Nos G) Utility Drivers - 3 Nos J) JLG Operator - 1 Nos H) Bus Drivers - 3 Nos J) JLG Operator - 1 Nos H) Bus Drivers - 3 Nos J) JLG Operator - 1 Nos H) Bus Drivers - 3 Nos J) JLG Operator - 1 Nos H) Bus Drivers - 3 Nos J) LLG Operator - 1 Nos H) Bus Drivers - 3 Nos H) Bus Drivers - 4 Nos H) Bus Drivers - 3 Nos H) Bus Drivers - 4 Nos H) Bus Drivers - 3 Nos H) LLG Operator - 1 Nos H) Bus Drivers - 3 Nos H) Bus Drivers - 3 Nos H) LLG Operator - 1 Nos H) Bus Drivers - 4 Nos H) Bus Drivers - 3 Nos H) LLG Operator - 1 Nos H) Bus Drivers - 3 Nos H) LLG Operator - 1 Nos H) Bus Drivers - 3 Nos H) Bus Drivers - 4 Nos H) Bus Driver	6	All drains are cleared and outlets are opened		List of do's and
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with their insurance formalities.  5 Keep pictorial records of the sequence of events and preparedness For insurance	3			
	4			
	5			

Pre-As	Pre-Assessment Checklist [Preparedness in Early Stage]			
1	Ensure that all the important document are preserved at a proper place.			
2	Enusure that emergency team has been prepared along with roles & responsibility.			
3	Ensure each representative of each department has a substitute (Dry Cargo, E&I, MHS SR, MHS Conv, MHS GSU, MHS WLS TLS, MHS Utility, ES CWS, ES Civil, Fire, Safety, Security, Marine, Railway, Admin, Store, IT etc).			
4	Ensure that the list of Emergency Contact Numbers are displayed.			
5	Ensure that all employees, contractors/vendors/visitors/other customer are aware of emergencies procedures.			For insurance purpose
6	Ensure that Emergency Items contains following items; torches, ropes, wires, tarpaulins, plastic sheets, tool kit, duct tapes, assorted gears, first aid box, sand bags			
7	Ensure proper communication with the POC for further information/ updates/news of respective emergency from disaster authority/ Govt agencies			
8	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]			

	WEST BASIN - EMERGENCY PREPAREDNESS					
	Level 2: On the Day When Rainfall Starts					
	Heavy Rain - Flood - Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
1	All Emegency Team members and Individual Shift Incharge to be onsite for actions as per instructions from Head - West Basin/CCR.					
2	Emergency team, at the direction of CEO, to carry out the following tasks:  Develop an overview of the situation; identify tasks to be undertaken; identify resources available for tasking; determine gaps in information and resources; access expert advice as required; develop and implement tactical plans for response and recovery operations					
3	All the emergency team members and shift incharge must have VHF sets, emergency torches, rain coat, life-jackets and other required protective gears.					
4	Central control room (Adani House) issues Port closure notice					
5	All normal operations stopped. Only emergency operations (securing of MHC/goliath/LMC/ equipment/hoppers/dumpers/trailers) to be continued					
6	Transportation arranged for evacuation of non-essential staff (employees and contractual staff)					
7	All electrically powered equipment/machines are to be isolated					
8	Loose material/items to be properly stored and lashed. In case of rain or heavy storm sand to be reinforced with sand bags for securing of cargo from sliding					

9	Only emergency team members to remain in the port		
10	Nomination of Emergency response vehicles [5 No's (ERT-1, 2 Adani Utilities-2, FLS Utility-2)]		
11	De-watering pumps to be placed at all low level areas (steel yard, CG-10 main road, o ld admin building)		
12	Arrangement of two mobile de-watering pumps to evacuate water from inside closed warehouses		
13	Drinking water (20 bottles of 20 litre) and dry non perishable food available for minimum 60 people (2 days). However the quantity shall be changed with respect to the staff to be deputed at West Basin during emergency after finalization with respective HODs and Head- West Basin		
14	Emergency kit is ready and checked		
15	Communication mediums like VHF, mobile phones and PA systems checked and tested		
16	Emergency team in continuous contact with other emergency services (such as QHSE & F, Security, other services)		
17	List and contact details of customers ,contractors and port emergency contacts is kept ready with with Central Control Room, Key staff of operation and ES department		
18	All visitors will be stopped		
Centra	al Control Room & Marine Control Room		
1	To circulate weather bulletins (issue by Martine Control) every 12 hrs to all external customers		
2	To take feedback of evacuation process and highlight progress/ issues emergency team		
3	All computers/peripherals in MPT control to be covered and protected against water ingress due to heavy rain.		
During	g Effective Period		
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.		
2	All personnel to be notified against venturing out during effective period.		
3	Do not taking shelter in low lying areas, old or damaged buildings, near tress and temporary structures.		
4	Shelter to be taken on higher ground		
5	Avoid standing near sea side.		
After	Effective Period		
1	Take headcount of all the personnel. (Respective Incharge/ Contract Supervisor)		
2	Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing		
3	Attend to injured persons and give them first aid, if possible. Also inform the hospital if anyone is injured, stating the type and extent of injury		
4	Assess damage to equipment, resources and cargo		
5	Initiate restart process		
6	Photographs to be taken for assessing damages to cargo and property for insurance		For insurance purpose
7	Communication to be sent to all clients regarding assessed and potential damage to cargo		

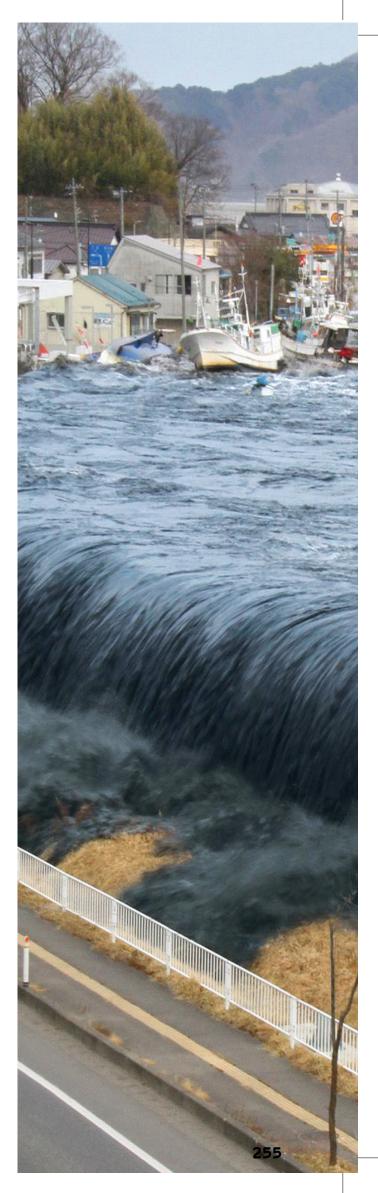
Pre-A	Pre-Assessment Checklist [Preparedness in Early Stage]			
1	Enusure that emergency team has been prepared along with roles $\boldsymbol{\mathcal{E}}$ responsibility			
2	Ensure each representative of each department has a substitute (Dry Cargo, E&I, MHS SR, MHS Conv, MHS GSU, MHS WLS TLS, MHS Utility, ES CWS, ES Civil, Fire, Safety, Security, Marine, Railway, Admin, Store, IT etc)			
3	Ensure that all employees, contractors/vendors/visitors/other customer are aware of emergencies and preparedness			
4	Ensure that emergency items contains following items; torches, ropes, wires, tarpaulins, plastic sheets, tool kit, duct tapes, assorted gears, first aid box, sand bags			
5	Ensure proper communication with the POC for further information/updates/news of respective emergency from disaster authority/Govt agencies			
6	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]			For insurance purpose

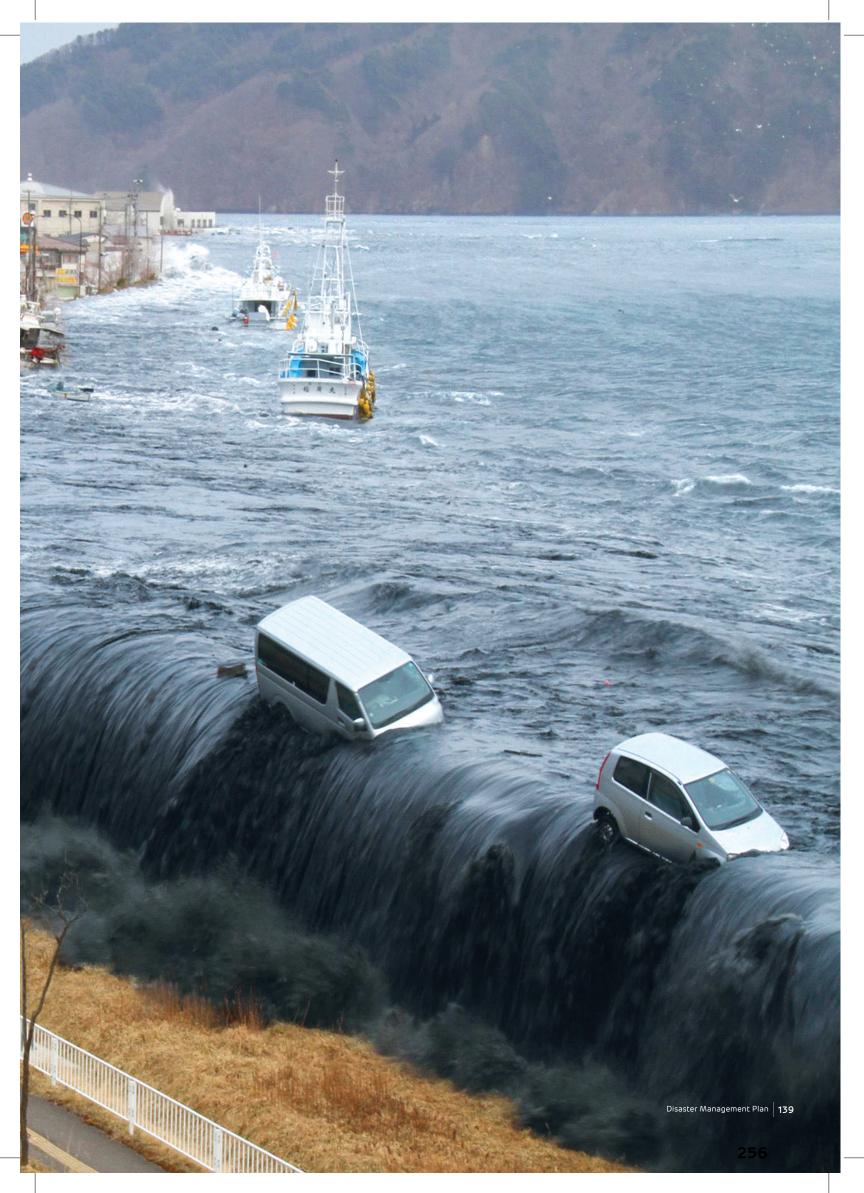
	QHSE&F - Emergency Preparedness			
	Emergency Response.			
	Flood - Checklist			
Sr. No.	Activity	Yes	No	Remarks
Induct	ion and Training Program			
1	Arrange induction /training program for all personnel on emergency preparedness & its awareness			Part of Induction/training program.
2	All concerned employees and contractual staff informed about the assembly point & evacuation locations			
3	To arrange emergency drill for dealing with such emergency.			To be made part of emergency drill.
4	To arrange necessary training for emergency response team/CMG/First Aid Team/Medical Team/Fire rescue team to deal with emergency. (Ensure availability of trained rescue team & necessary equipments all the time)			
5	Arrange training for all QHSE&F team member for emergency response & clear cut understanding of their cruisial roles & responsibility during emergency			
6	To prepare & check effectiveness of Emergency Response Plan/ Disaster Management Plan			
7	To do proper co-ordination with all concern department for maintaining necessary emergency response kit & necessary aids in required inventory or make identified supply of the same during declaration of such emergency			
8	To maintain close co-rdination with mutual aid for dealing with emergency.			
During	Effective Period			
1	Assist CEO/Executive Director (Corp. Affairs). as instructed.			
2	Co-ordination with respective HOD/HOS with respect to emergency actions.			
3	Ensure necessary action through CMG. Provide necessary assistance to CMG			

4	Assist in evacuation of all personnel except key personnel.		
5	Provide HSE & F facilities (Assist for Rescue, Evacuation, and other Necessary Arrangement).		
6	Set up casualty collection centre and arrange first aid posts.		
7	Arrange enough stock medicines, antidotes, oxygen, stretchers,		
8	Keeping in mind that Road and Rail connectivity may be cut off for required period of time.		
9	Arranges additional medicine and equipment as required.		
10	Arrange a fully equipped Ambulance in ready state.		
11	Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment.		
12	To do immediate co-ordination to mutual aids for necessary help/support if required.		
After E	ffective Period		
1	Assist to CEO/Executive Director (Corp. Affairs).		
2	Assess damage (human) and send for further treatment.		
3	Assess the property damage and prepare report.		
4	Assist all HODs with restoration.		
5	Perform necessary rescue through rescue team where needed.		
6	Check each & every effecetd area & arrange for necessary HSE& F actions as require.		
7	After completion of all rescue, restoration work. Check the effectiveness of executed emergency plan & take necessary require corrective action to update the plan & necessaary facilities if required.		
8	To motivate the emergency rescue team, CMG $\&$ all concerns, who have perform well during emergency.		

Disaster Management Plan for

# Tsunami

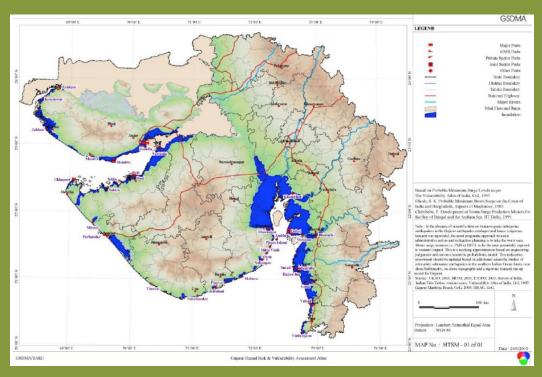




## Tsunami

#### Important Information

Tsunami is Japanese word for "harbor wave which is a huge ocean wave that can travel at speeds up to 600 mi/hr (965 km/hr) can have heights of up to 30 m (98 ft), wavelengths of up to 200 km (124 mi) and long periods, usually between 10 and 60 minutes. Sometimes incorrectly called a tidal wave, a tsunami is usually caused by an underwater earthquake or volcanic eruption and often causes extreme destruction when it strikes land. It is a series of waves which travel outward on the ocean surface in all directions in a kind of ripple effect. Since the waves can start out hundreds of miles long and only a few feet high, they would not necessarily be noticeable to a passing ship or a plane flying overhead. The tsunami warning is issued on earthquake having intensity of more than 6.5 on ritcher scale.



**Note**: tsunamis are extremely rare events in Gujarat. However, Gujarat state in general is prone to tsunami risk due to its longest coastline and probability of occurrence of submarine earthquakes near the offshore in arabian sea. In past, kandla coast was hit by a tsunami of 12m height in 1945, due to an earthquake in makran fault line.

Tsunami can cause huge loss of life and damage to port assets due to minimum response time available for saving lives, property and environment. Both road and railway connectivity may be cut off for some time. There may be unpredicted rush-off of sea water, heavy current which may damage buildings, structures, towers, transmission lines, heavy cranes, silos, godowns, tanks, chimney etc. at unpredicted location. Adequate stock of essential medicine shall be maintained.

- 1. http://www.incois.gov.in/
- 2. http://www.nio.org/
- 3. http://www.imd.gov.in/
- 4. http://www.imdahm.gov.in/

#### **Action Plan**

- A. Actions Before tsunami (Maximum Before 30 Mins)
- B. Actions During tsunami
- C. Actions Post tsunami stage: recovery, insurance, restoration & relief Looking to the scenario of tsunami (short-time span), actions – before tsunami (maximum 30 mins)/during tsunami has been merged.

#### Marine Control (Signal Station)

- · Prime duty of signal station is to collect the weather condition and inform Control.
- · Marine Head of the Port is the controlling authority of Signal Station, who is assisted by 2 DGM Marine Operations.
- · Marine Control station is the Permanent Nodal Agency to gather information about Tsunami, and marine control shall inform the CEO and all HODs.
- The port radar system is installed on top of the Marine Operation Building (MPT & WB) station, Vessel Traffic Management System (VTMS) is with the marine control.
- · The information is to be collected from Indian Meteorological department, Institute of Seismological Research (ISR) and Indian National Centre for Ocean Information Services (INCOIS).
- · All information related to tsunami shall be instantly sent to CEO and all HODs by mail, SMS, followed by Telephone to ensure the authority has received the message. In case any recipient is out of headquarters, the information shall be passed on to the HOS.
- The Marine Control station shall maintain the contact details of CEO, all HODs and, HOSs, in addition to all installation (HR department shall supply contact details of all concerned list is to be kept updated every 3 months).

#### Tsunami Management Centre

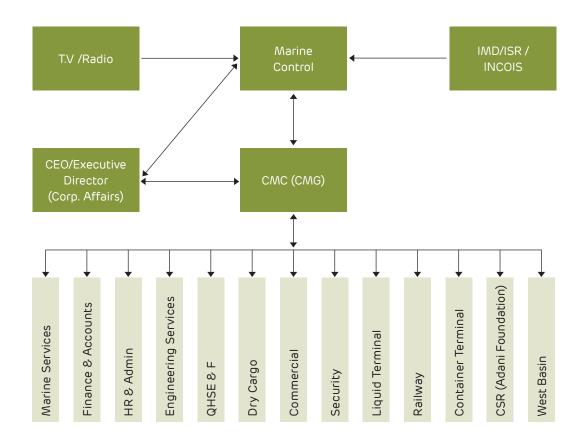
- · On receipt of information of approaching tsunami a Crisis Management Centre (CMC) at Shantivan Colony.
- CMC formation shall be ordered by the CEO or the Executive Director (Corp. Affairs).
- CEO or the Executive Director (Corp. Affairs) shall be overall in charge of the CMC and shall take all necessary steps for proper functioning of the control room.
- All information shall be passed over to CMC by the Marine Control, when CMC starts functioning.
- All coordination and control shall be done by the CEO from the CMC.

Crisis Management Group

- Crisis Management Group (CMG) will be a permanent body to deal with all crisis and it is formed by CEO.
- On confirmation of possible tsunami attack on the port, the Crisis Management Group (CMG) shall meet at the CMC or other convenient place as determined by the CEO.
- CEO Shall appoint departmental HOD/HOS as Coordinator and Convener of the CMG.
- All meetings of the Crisis Management Group (CMG) shall be conducted in the CMC.
- All HODs/HOS shall be members of CMG, in absence of CEO, Executive Director (Corp. Affairs) shall be the Chairman of CMG and Coordinator shall be the convener.
- CEO may declare emergency so that all staff and officers shall be at their duty stations
  and congregate at their designated stations for taking review of the situation and for
  implementing orders received from their respective HODs, who are CMG members.
- CMC shall be manned round the clock and shall be headed by CEO or someone nominated by CEO. He shall be at least of the rank of HOD.

#### Crisis Management Group - Responsibilities

All HOD's and HOS's shall be members of crisis group for tsunami management and post restoration activities in addition to members nominated by CEO as per the situation. The crisis management group shall be active till the full restoration of port activities.



#### Commands Structure/Designated Persons

- The following table shows the command structure for each department.
- In case the officer in the first column is not available, the second in command automatically takes over.
- · Designation of the first column is the HOD and second column is the successor.
- In case of absence of both, the senior most officers of the dept. to assume charge.

Sr.No.	Head	Successor
1	CEO	Executive Director (Corporate Affairs)
2	HOD (Marine)	HOS (Marine)
3	HOD Finance	HOS Finance
4	HOD (HR & Admin)	HOS (HR & Admin)
5	HOD (ES)	HOS (ES)
6	HOD (QHSE & F)	HOS (QHSE & F)
7	HOD (Dry Cargo)	HOS (Dry Cargo)
8	HOD (Commercial)	HOS (Commercial)
9	HOD (Security)	HOS (Security)
10	HOD (Liquid)	HOS (Liquid)
11	HOD (Railway)	HOS (Railway)
12	HOD (Container Terminal)	HOS (Container Terminal)
13	HOD (West Basin)	HOS (West Basin)
14	HOD (CSR - ADANI FOUNDATION)	HOS (CSR - ADANI FOUNDATION)

<sup>\*</sup> Roles of HODs [West basin (ES & DC)] and HODs [MPT (ES &DC)] are same. HODs [West Basin] will assist to Head - West Basin.

### & B Actions – Before tsunami (Maximum before 30 Mins) and Actions – During tsunami:

Marine Control will receive the information from IMD/ISR/INCOIS. Thereafter they will inform to the CEO/Executive Director (Corp. Affairs).

- → Group Position
- → Port Position
- Alternative
- Site Main Controller

CEO

Exec. Director (Corp. Affairs)

- · Stop all operations.
- Inform to all HODs of evacuation of personnel from the port.
- Continuous updates on tsunami.
- Inform to HR & Admin for providing facilities of transportation.
- · To establish Emergency Control Centre.
- · Contact Government authority for further more information about tsunami.
- · Power supply is to be cut-off in consultation with MUPL and ES.

- → Group Position
- → Port Position
- Alternative
- Incident Controller

Marine Control (Shift Incharge)

- Assist CEO as instructed.
- Marine Control will inform to all the Vessel Chiefs for evacuation as per direction of CEO

#### General Responsibilities

- Each individual coming out to speak with loud "PLEASE EVACUATE" and reach a safe place.
- Immediate evacuation with readily available vehicles.
- Upon getting information, Admin shall send the vehicles immediately for evacuation from port.
- Security is to maintain the traffic control for fast turn-around of vehicles.
- Security shall allow only to the vehicles (for evacuation) and rescue team.

## C

#### Actions – Post tsunami Stage (Recovery, Insurance, Restoration & Relief):

The purpose of post tsunami activity is to resume port operation as early as possible.

#### Site-main Controller - CEO/Executive Director (Corp. Affairs) Corp. Affairs)

- a. Collect the details of damages if any from HODs immediately.
- b. Ask all members of the CMG to immediately inspect their area of responsibility, along with their subordinate staff and officers and report their finding.
- c. Ask the HODs to submit preliminary estimate immediately, followed by detailed estimate.
- d. HOD Marine to be asked to complete the survey of channel and berth as quickly as possible, to resume shipping activity.
- e. All required activities to resume port operations are to be discussed and finalized with HODs.
- f. A department wise detailed programme is to be drawn up to resume normal Port operations.
- g. After ensuring the situation, inform to MUPL to start the power in consultation with ES.
- h. Regular follow up to complete the work as programmed is to be done.
- i. Emergency powers for procurement and award of contract are to be evoked.
- j. HODs are required to submit the details and programs immediately.
- k. Reports on condition of tugs and other port crafts, ship unloader, ship loaders, HMCs and other auxiliary equipment after thoroughly inspection by HOD.
- I. All other cargo handling equipment like container handling equipment if any shall be inspected by HOD and detailed report to be obtained.
- m. MCCs, stacker reclaimers, wagon tippler and wagon tippler tunnel,
- $\ensuremath{\mathsf{n}}.$  Ask all HODs to submit details to HOD Finance to process insurance claims.
- o. Coordinate the CSR activities.
- p. Keep contact with District Collector and local state Govt. official and offer all possible help for rehabilitation of displaced villagers.
- q. Inform all stockholders regarding all clear & restoration of the port operation. Also inform the same to the corporate office.
- r. Confirms the termination of the emergency after the threat is over.
- s. Lead the Crisis Management Group for early restoration of facilities and resume port activities.

#### Incident Controller: HOD - Marine [Marine & Spm]

- a. Marine HOD shall immediately arrange for survey of channel and berth and inform the condition to CEO/COO, Who in turn inform to the corporate office and stake holders.
- b. Restoration work if any may be done in association with Head ES.
- c. Shall check the navigational aid system take action for rectifications if required
- d. Check all tugs and mooring crafts and they should be made fully functional as quickly as possible.

#### **SPM**

- a. Checking both mooring hawser assemblies and replace the components as required.
- b. Replacements of both 9" PP pick ropes of mooring hawsers.
- c. Inspection of each floating hoses on both floating hose strings.
- d. Underwater inspection of each individual hoses on both subsea hose string and subsea umbilical.
- e. Underwater inspection of all deep sea floats for its integrity.
- f. Checking subsea hose strings configuration at low and high tide.
- g. Verifying chain angle of all six anchor chains to be within limits, at low and high tide.
- h. SPM buoy body inspection integrity of seal on all hatches and doors.
- i. Operational check of all navigational and safety equipment.
- j. Carry out the system pressure test from floating hose string end to PLEM valve upto 15 bars and hold for 03 hours. Visual check by divers for any abnormalities on floating hoses and subsea hoses.
- k. Carryout "Free Span and Lateral displacement" survey of subsea pipeline and provide support wherever necessary i.e. if it is beyond recommended allowable span.

#### Incident Controller: HOD - ES (MPT & WB)

- a. Shall immediately depute the electrical engineer to have an update of power supply.
- b. In case of power outage, coordinate with Electrical supply authorities for restoration of power supply
- c. If power is available, and MCCs are O.K, charge MCCs one by one after thorough checking.
- d. Depute the same team which has parked the equipment to release the equipment for operation after removing all blockages.
- e. If any equipment is found to be damaged report the matter to higher ups and take action for early repair or decommissioning.
- f. Do not start operating, until all parking locks & additional tie-ups are removed
- g. Equipment also can be charged one by one after charging the MCCs after obtaining written clearance from the engineer in charge.
- h. Ensure that the equipment electrical system is perfect before charging. Keep records of all measurements.
- i. Inspect the tunnel and dewater the accumulated water.
- j. Inspect all electrical and mechanical system thoroughly before Trial run.
- k. All lighting towers which were lowered to be raised up.
- I. Damaged street lights and damaged internal lighting system to be repaired and recommissioned.
- m. All belt clamping/tie-up must be removed before trial run of conveyors.
- n. Arrange for de watering of tunnel with diesel pump if power supply is not readily available.
- o. Ensure all DG sets works till normal power supply is resumed.
- p. Shall inspect the water supply system and take all action to establish normal water supply immediately.
- q. In case of any difficulty bring it to the notice of CEO/Executive Director (Corp. Affairs) (Corp. Affairs).
- r. In case of water logging, arrange diesel pumps and pump out water.
- s. Drainage system if damaged should be repaired immediately.
- t. Inspect all roof tops and if any roof is blown off, take action for replacement.
- u. Coordinate with Admin/HR for clean-up activities.
- v. HODs of West Basin will assist to Head West Basin.

#### Primary Support Team: HOD - HR & Admin

- a. Shall take up rehabilitation work of port colony.
- b. Take all actions necessary to rehabilitate the officers and staff of the port.
- c. Coordinate with civil department to clean up the colony and premises.
- d. Arrange for provisions till normalcy is established.
- e. Food arrangements to people on resumption work to be coordinated.

#### Primary Support Team: HOD - QHSE&F

- a. Assist to CEO/Executive Director (Corp. Affairs)
- b. Assess damage (human) and send for further treatment.
- c. Assess the property damage and prepare report in consultation with concern department.
- d. Assist all HODs with restoration.
- e. Arrange for environmentally safe disposal of post emergency generated effluents/waste.
- f. Updating DMP based on faced natural calamities.

#### Secondary Support Team: HOD - Commercial

- a. Shall inspect all stores and estimate loss or damages if any and take immediate action for reequipping the items.
- b. Coordinate with all HODs for requirements of consumables and spares.
- c. Discuss with CEO/Executive Director (Corp. Affairs) to ease norms of procurement for im mediate supply of stores.
- d. He shall help HOD Commercial for procuring the items necessary for tsunami damage repairs.

#### Incident Controller: HOD - Railway

- a. Shall depute teams of staff to check the condition of all railway track and track electrification and signalling system.
- b. Contractor shall be instructed to depute adequate numbers of teams to survey the entire railway lines and system and submit feedback within the shortest possible time (fix the time period for feedback)
- c. Condition shall be reported to CEO/Executive Director (Corp. Affairs) (Corp. Affairs) and take action to repair and resume operations.
- d. If track electrification is damaged, coordinate with Indian Railways to press in Diesel locos till the electric line is repaired, and resume operation with conventional signalling.
- e. Any help for repair and decommissioning may be taken from HOD ES.
- f. He shall also inspect the Locomotives of the Port, and arrange for trial running to put them into operation.
- g. Inspect the locomotives of the port, and arrange for trial running to put them into operation.

#### Incident Controller: HOD - Operations [DC (MPT & WB), CT, LT]

- a. Shall inspect all areas along with concerned HODs for estimate loss and damages if any. prepare report and submit to CEO.
- b. The condition of stored hazardous/toxic cargo to be inspected along with HSE and immediate action, as advised by HSE, to be taken up.
- c. Deploy men and equipment to segregate and salvage all cargo.
- d. Coordinate with ES HOD, for assistance in de-watering and plot/shed repairs.
- e. Discuss with CEO/Executive Director (Corp. Affairs) and HODs for resumption of partial or full operations.
- f. Take all actions for early resumption of port activities.
- g. Coordinate with HOD Marine to resume shipping operations.

- h. Coordinate with HOD Finance for insurance claims.
- i. All costly and critical materials are stacked properly to avoid loss due to wind or water inundation.
- j. Estimate the losses and damages along with BD and inform CEO/Executive Director (Corp. Affairs).

#### Secondary Support Team: HOD – Finance & Accounts

#### Insurance Claims

- a. All HODs to prepare loss and damage list and estimate the costs of rectification and submit the same to HOD - Finance, who is the nodal officer for claiming insurance, with copies to CEO/Executive Director (Corp. Affairs) (Corp. Affairs). The details shall contain photograph also immediately
- b. Shall coordinate with insurance company to arrange the surveyor as quickly as possible, so that rectification work can start immediately.
- c. May coordinate with all HODs to prepare additional documents if required.
- d. May collect the details of claims with supporting documents from HODs in a time frame to be fixed by him for early settlement of all claims.
- e. Timely submission of insurance claims necessary for claiming losses.

#### Primary Support Team: HOD - Security

- a. Restoration of road traffic & port entry system from and to the port disrupted due to the Tsunami.
- b. Shall be well versed with all road communication of the area.
- c. Shall coordinate with local administration/State administration to clear the roads in con sultation with Corporate Affairs.
- d. Port may also be required to engage men and machine to clear the road blockages.

#### Secondary Support Team: CSR HOD - Adani Foundation [General Responsibilities]

The company has a social responsibly to save the life and property of the people living in the peripheral areas. This work involves the following activities. These activities may be done in association with local administration.

- a. Inform the public by public announcement the danger level of the tsunami and its effects and consequences.
- b. Leaflets are to be circulated about the danger level.
- c. If Tidal inundation is expected the villagers may be informed of the consequences.
- d. Request them to move to safer places to escape from heavy wind and tidal actions.
- e. Moving to tsunami shelter is the best option. If tsunami shelter is not nearby, they may be asked to move to permanent structures available nearby. Provide them all assistance for evacuation.
- f. Provide the villagers adequate dry food (chuda, gudo, biscuits, baby food etc.) items and potable water in adequate quantity.
- g. Water tankers with potable water may be kept stand-by.
- h. Services of medical team may be extended to the peripheral villages with necessary medicines and first aids.
- i. Advise them to remain indoors during tsunami.
- j. After the tsunami there may be shortage of food and water.
- k. Water has to be provided for their basic needs till normalcy is established.
- I. Start community Kitchens to provide them with food.
- m. Help in rehabilitation of all displaced people in coordination with local Govt. Agencies and NGOs.

- → Position
- → Port position
- → Alternative
- Secondary support team

in-charge telecommunication

- Take charge of all communication systems of fixed and portable.
- Ensure availability of sufficient numbers of electronic communication equipment to the port control station, Base Control and anywhere else as necessary.

- → Position
- → Port position
- Alternative
- Secondary support team

in-charge - IT

- Take charge of all necessary communication system.
- Take all necessary back up of data.
- Assess damage of assets and restore

## A Checklist

- Checklist for CEO/Executive Director (Corp. Affairs) (Corp. Affairs).
- Following Checklists prepared which shall be used at the time of declaration of tsunami.

Checklist – 1	CEO/Executive Director (Corp. Affairs) (Corp. Affairs)
Checklist – 2	Marine Services
Checklist – 3	Engineering Services
Checklist – 4	Dry Cargo
Checklist – 5	Liquid Terminal
Checklist – 6	Container Terminal
Checklist – 7	HR & Admin
Checklist – 8	Security
Checklist – 9	Railway Services
Checklist – 10	West Basin
Checklist - 11	QHSE&F

	CEO- Emergency Preparedness			
	Tsunami - Check List			
Sr. No.	Activity	Yes	No	Remarks
Before	Effective Period			
1	On receipt of tsunami warning, emergency Control Room to be established on the fourth floor of Adani house. (In the conference room).			
2	Alarms sounded followed by verbal order on PA system instructing personnel to stop all operations and initiate tsunami action plan.			
3	All teams have reported initiation of emergency action plan.			
4	Inform government agencies, other stake holders and mutual aid partners for initiating emergency action.			
5	Obtain status of situation from the government Emergency Control Room and disseminate information.			
6	Emergency numbers to be kept with all emergency vehicles (Provide copy of emergency numbers list in all vehicles)			
After E	Effective Period			
	Announcement to be made declaring end of emergency or PA system and other means of communication.			
2	Head count to be taken to certain missing personnel.			
3	Get reports on causalities and injuries to personnel. Arrange for medical assistance.			
4	Launch search and rescue operations for missing personnel.			
5	Personnel to be advised not to enter damaged buildings/structures.			
6	Carry out assessment of damage to property and all high value assets within the port including ships.			
7	Reports to be consolidated with photographs from all departments for insurance claims.			
8	Gradual resumption of port operation.			

	Marine Services - Emergency Preparedness					
	Emergency Response.					
	Tsunami- Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Induct	ion and Training Program.					
1	Induction to employees about the emergency location of Medical Station, Fire Station.			Part of Induction program.		
2	All concerned employees and contractual staff informed about the assembly points.					
3	All Crafts, Tugs, Fishing boats, and ships to be notified immediately and to move into deep waters away from shore line			To be made part of emergency drill.		
4	Make arrangement of transportation of employees and contractors					
During	Effective Period					
1	Avoid standing near sea side. Move as far away from the sea shore as is possible.					
2	During the event, the safest place is a terrace of structured building.					
3	If possible, evacuate the port and move as fast as possible away from the shore line					

4	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present		
5	Take head count of personnel		
After	Effective Period		
1	Take head count of personnel		
2	Assess damage to equipments, building and unsafe condition		
3	Initiate restart/repair process		

	Engineering Services of MPT - Emergency Preparedness					
	Emergency Response.					
	Tsunami- Checklist					
Sr. No.	Activity	Yes	No	Remarks		
Induct	ion and Training Program.					
1	Induction to employees about the emergency location of Medical Station and Fire Station			Part of Induction program.		
2	All concerned employees and contractual staff informed about the assembly points			Part of safety tool talk		
3	People made aware about tsunami warning signals( earthquake, sudden rise and fall in coastal water level)			Training program		
4	People are made aware about evacuation plan in case of emergency			Training program		
5	People are made aware of do's and don'ts before, during and after tsunami			part of training. List of do's and don'ts enclosed		
6	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc. to be placed at FCC control room, DG houses & substation & workshop			Emergency Kit as per annexure		
During	Warning Period ( appx 30 Min)					
1	Cargo operations stopped and all prerequisite for vessel to cast off undertaken.			To be made part of emergency drill.		
2	Mobile Harbour Cranes in boom down position & properly lashed as per SOP & crane to be parked at designated area.  2.1 Mobile harbour cranes at jetty  2.2 Steel yards crane e.g goliath cranes & LMC			To be made part of emergency drill.		
3	Dumpers and mobile equipment moved away from berth (designated open plots)					
4	Arrangements to be made for transportation of employees and contractors and labourers					
5	Emergency Kit, Food supplies and drinking water checked and tested.					
6	Communication mediums like VHF, Mobile phones and PA systems checked			Numbers mentioned in Annexure		
7	Visitors' evacuation is ensured Note: At the time of cyclone & tsunami warning, priority to be given to worker, technician working on jetty or below jetty					
During	Effective Period					
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present					
2	If possible, evacuate the port and move as fast as possible away from the shore line. Follow the evacuation plan					

3	During the event, the safest place is a terrace of structured building. Backup and ES team to rush to new CT building, Steel yard and jetty staff to tug berth building terrace		
After	Effective Period		
1	Assess damage to equipment and buildings, and record the conditions.		
2	Take head count of personnel		
3	Initiate restart/repair process		
4	Photographs to be taken for assessing damages to cargo and property for insurance		
5	Communication to be sent to all clients regarding assessed and potential damage to cargo		For insurance purpose

Dry Cargo - Emergency Preparedness				
	Emergency Response.			
	Tsunami- Checklist			
Sr. No.	Activity	Yes	No	Remarks
Induct	ion and Training Program.			
1	Induction to employees about the emergency location of Medical Station and Fire Station.			Part of Induction program.
2	All concerned employees and contractual staff informed about the assembly points.			Part of safety tool talk
3	People made aware about tsunami warning signals( earthquake, sudden rise and fall in coastal water level)			Training program
4	People are made aware about evacuation plan in case of emergency.			Training program
5	People are made aware of do's and don'ts before, during and after tsunami.			part of training. List of do's and don'ts enclosed
6	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc. to be placed at FCC control room, DG houses & substation & workshop			Emergency Kit as per annexure
During	Warning Period ( appx 30 Min)			
1	Cargo operations stopped and all prerequisite for vessel to cast off undertaken			To be made part of emergency drill.
2	Mobile Harbour Cranes in boom down position & properly lashed as per SOP & crane to be parked at designated area.  2.1 Mobile Harbour Cranes at jetty  2,2. Steel yards crane e.g Goliath Cranes & LMC			To be made part of emergency drill.
3	Dumpers and mobile equipment moved away from berth (designated open plots)			
4	Arrangements made for transportation of employees and contractors and labour			
5	Emergency kit, food supplies and drinking water checked and tested.			
6	Communication mediums like VHF, mobile phones and PA systems checked			Numbers mentioned in Annexure
7	Visitors' evacuation is ensured. Note: At the time of cyclone & tsunami warning, priority to be given to worker, technician working on jetty or below jetty.			

Durir	ng Effective Period		
1	During the event, the safest place is a terrace of structured building. Backup and FCC team to rush to new CT building, Steel yard and jetty staff to tug berth building terrace.		
2	If possible, evacuate the port and move as fast as possible away from the shore line. Follow the evacuation plan.		
3	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present.		
After	Effective Period		
1	Assess damage to equipment and buildings, and record the conditions.		
2	Take head count of personnel.		
3	Initiate restart/repair process		
4	Photographs to be taken for assessing damages to cargo and property for insurance.		For insurance purpose
5	Communication to be sent to all clients regarding assessed and potential damage to cargo.		

Liquid Terminal - Emergency Preparedness						
Emergency Response.						
	Tsunami Check List					
Sr. No.	Activity	Yes	No	Remarks		
Before	Effective Period					
Induct	ion and Training Program.					
1	Induction to employees about the emergency location of Medical Station, Fire Station.					
2	All concerned employees and contractual staff informed about the assembly points.					
3	All crafts, tugs, fishing boats, and ships to be notified immediately and to move into deep waters away from shore line					
4	Make arrangement of transportation of employees and contractors					
During	Effective Period					
1	Avoid standing near sea side. Move as far away from the sea shore as is possible					
2	During the event, the safest place is a terrace of structured building					
3	If possible, evacuate the port and move as fast as possible away from the shore line					
4	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present					
5	Take head count of personnel					
After Effective Period						
1	Take head count of personnel					
2	Assess damage to equipment, building and unsafe condition					
3	Initiate restart process					

	Container Terminal - Emergency Preparedness			
	Emergency Response.			
	Tsunami- Checklist			
Sr. No.	Activity	Yes	No	Remarks
Induct	ion and Training Program.			
	Induction to employees about the emergency location of Medical Station, Fire Station			Part of Induction program.
2	All employees concerned and contractual staff informed about the assembly points			
3	Park all machines/cranes and secure them as appropriate			To be made part of emergency drill.
4	Make arrangement of transportation of employees and contractors			
During	g Effective Period			
	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present			
2	Take head count of personnel			
3	Avoid standing near sea side. Move as far away from the sea shore as possible			
4	During the event, the safest place is a terrace of structured building.			
5	If possible, evacuate the port and move as fast as possible away from the shore line			
After l	Effective Period			
	Take head count of personnel			Numbers mentioned in Annexure
2	Assess damage to equipments, building and unsafe condition			
3	Initiate restart/repair process			

Administration - Emergency Preparedness					
Emergency Response.					
	Tsunami- Checklist				
Sr. No.	Activity	Yes	No	Remarks	
Induct	ion and Training Program.				
1	Induction to employees about the emergency location of Medical Station, Fire Station			Part of Induction program.	
2	All concerned employees and contractual staff informed about the assembly points				
3	Evecuation route to be intimated to all drivers				
During	Effective Period				
1	All buses and LMVs immediately moved towards parking near each Assembly points				
2	Evacuation route to be cleared with the help of security				
3	All Controll rooms will be manned				
After Effective Period					
1	Assess damage to equipments, building and unsafe condition				
2	Initiate restart/repair process				

	Security Services - Emergency Preparedness  Tsunami - Check List			
Sr No	Activity	Yes	No	Remarks
	Effective Period	103	110	Remorks
	ol Points			
1	Obtain status of tsunami at regular interval from Emergency Control Room and disseminate to others for their information and appropriate safety measures			
2	Establishment of Emergency Control Room at suitable location with communication facilities			
3	A team is to be formed for emergency.			
4	All vehicles to be topped up with fuel – prior to effective period, and topped up on daily basis.			
5	Walkie talkie sets to be fully charged along with stand-by batteries			
6	Keep mobiles (personal/official) fully charged			
7	Ensure emergency lights are functioning			
8	Ensure mega phones are functioning (change old batteries)			
9	Ensure public announcement (PA system) on ERT vehicle is functioning			
10	Ensure digital cameras and handy cam are fully charged.(ERT, PSC, MSB, MWB)			
11	Ensure security guards in possession of all PPEs and whistle			
12	Ensure availability of rope (30 Mtr), life jacket & tarpaulin (If available), at respective gate & 01 at ISCR,			
13	Traffic cone to be removed and kept in closed room (may be affected by high wind)			
14	Frontier from roads to be removed and kept in covered godown in stacking mode.			
15	Search lights to be kept ready dully functional.			
6	Hammer and cutting tools (available with Fire Dept).			
17	Bottled drinking water to kept in all emergency vehicles			
8	First Aid Box to be kept with all emergency vehicles duly updated from medical wing.			
19	Emergency numbers to be kept with all emergency vehicles			
20	Security reinforcement to be kept ready at guards colony with due provision of transport (whichever transport mode is available).			
21	Alternate route for hospital and other locations to be checked and available with all emergency teams.			
22	Detailed briefing of security guards to be carried out			
23	Communication to be done as per requirement (to save battery of mobile & VHF)			
24	Remove security guards from remote and isolated location as per instruction of ISCR.			
25	Ensure rain coat available with all Security personnel on duty			
26	List of emergency contacts & suppliers.			
27	Material & equipment that cannot be moved are to be covered.			
28	Hoist appropriate storm warning Signal.			
29	A team is to be formed for emergency.			
30	Remove all loose materials and equipment from jetty & other areas			
31	Ensure all workmen are sheltered at safe locations like canteens (concrete buildings)			

32	Stop all vehicle movement and ensure the vehicles are parked at safe location with blocked wheels		
33	Ensure roads and pathways are cleaned		
34	Air filled tubes, bamboos & air filled boats to be kept ready for evacuation		
During	Effective Period		
1	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employee are present		
2	All personnel to be notified against venturing out during effective period		
3	All personnel to remain indoor, observant and be alert		
4	Avoid taking shelter near old or damaged buildings or near tress		
5	All doors and windows to be shut		
6	Avoid the top floor of buildings. Stay close to ground floor		
7	Close the visitors' gate		
8	Occupy pre-determined post for controlling security of installation		
9	Call up additional help from barracks		
10	Ensure that unauthorized persons/vehicles do not enter the gate		
11	Provide security men for firefighting & rescue		
12	Arrange for transport of higher authorities to the terminal		
13	Transport vehicles would be provided near emergency control center		
14	Depute security guards for controlling traffic at scene of disaster		
15	Produce a list of port staff on duty in co-ordination with time office		
16	Ensure availability of security men at gates so that they can lead authorities to disaster site		
17	Ensure that non-essential persons do not crowd affected area		
18	Instruct all drivers to take shelter at canteens (concrete buildings)		
19	Ensure vehicles are parked at designed parking areas, with wheels are blocked		
20	Close the gate ant stop allowing visitors and transport trucks either inward or out ward		
21	If caught in open areas during tsunami find a safe shelter immediately		
After E	Effective Period		
1	Assess damage to equipment, building and unsafe condition.		
2	Do not enter in damaged buildings		
3	Use mobile phones only for emergency calls		
4	Start search operation for living things		
5	Do not use any damaged electronic goods		
6	Drink boiled water		
7	Confirm with concerned about situation of tsunami before you move out		
8	Start restorative measures & repairs		

	Railway Services - Emergency Preparedness			
	Emergency Response.			
	Tsunami- Checklist			
Sr. No.	Activity	Yes	No	Remarks
Induct	ion and Training Program.			
1	Induction to employees about the emergency location of Medical Station and Fire Station			Part of Induction program.
2	All concerned employees and contractual staff informed about the assembly points			Part of safety tool talk
3	People made aware about tsunami warning signals( earthquake, sudden rise and fall in coastal water level)			Training program
4	People are made aware about evacuation plan in case of emergency			Training program
5	People are made aware of do's and don'ts before, during and after tsunami			Part of training. List of do's and don'ts enclosed
6	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc. to be placed at FCC control room, DG houses & substation & workshop			Emergency Kit as per annexure
During	Warning Period ( appx 30 Min)			
1	Railway operations stopped			To be made part of emergency drill.
2	Locomotive to be sent at safe places			To be made part of emergency drill.
3	Electrical supply to the signalling panel to be switched off			
4	Arrangements to be made for transportation of employees and contractors and labourers			Numbers mentioned in Annexure
5	Emergency kit, food supplies and drinking water checked and tested			
6	Communication mediums like VHF, mobile phones and PA systems checked			
7	Visitors' evacuation is ensured			
During	Effective Period			
1	During the event, the safest place is a terrace of structured building. Railway Operation team to rush to new CT building, Railway control room MDCC MPT. MICT Building			
2	If possible, evacuate the port and move as fast as possible away from the shore line. Follow the evacuation plan			
3	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employees are present			
After E	ffective Period			
1	Assess damage to equipment and buildings, and record the conditions			
2	Take head count of personnel			
3	Initiate restart/repair process			
4	Photographs to be taken for assessing damages to cargo and property for insurance			For insurance purpose
5	Communication to be sent to all clients regarding assessed and potential damage to cargo			

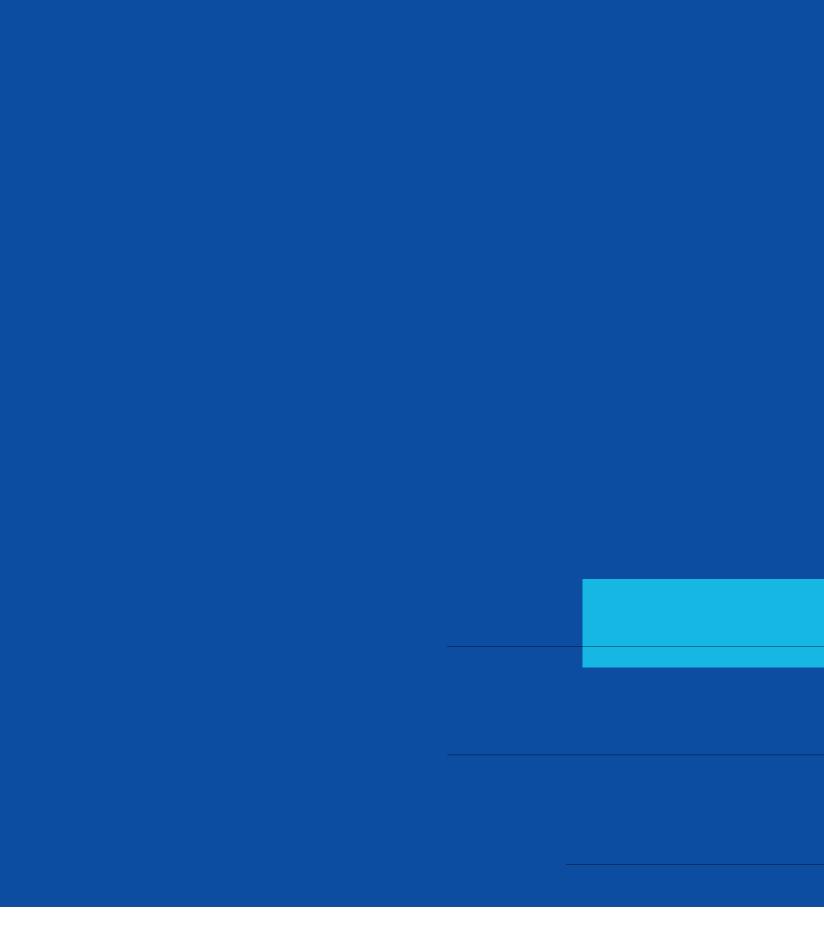
	WEST BASIN - EMERGENCY PREPAREDNESS				
Emergency Response					
	ami- Checklist	\ \ \			
	. Activity	Yes	No	Remarks	
1	tion and Training Program			Part of Induction	
	Induction to employees about the emergency location of medical station and fire station			program.	
2	All concerned employees and contractual staff informed about the assembly points			Part of safety tool talk	
3	People to be made aware about tsunami warning signals( earthquake, sudden rise and fall in coastal water level)			Training program	
4	People to be made aware about evacuation plan in case of emergency			Training program	
5	People to be made aware of do's and don'ts before, during and after tsunami			part of training. List of do's and don'ts enclosed	
6	Emergency kit is prepared beforehand. The emergency kit contains flashlight and extra batteries, battery-operated radio and extra batteries, first aid kit emergency food and water, essential medicines, whistle, etc. to be placed at Central Control Room			Emergency Kit as per annexure	
7	Ensure that no elevator or lift to be used in case of emergency				
8	Wardens of the individual buildings must be aware of their duties			Duties of Warden	
9	Ensure all personnel working inside port are aware of the various siren codes (emergency, evacuation, all clear)				
Durin	g Warning Period (Approx. 30 Min)				
1	Cargo operations stopped and all prerequisite for vessel to cast off undertaken			To be made part of emergency drill	
2	All GSU cranes are secured with storm storm-lock pin			To be made part of emergency drill	
3	All stackers and reclaimer machines are locked and kept at the end			To be made part of emergency drill.	
4	Dumpers and mobile equipment moved away from berth (to be kept in yards without obstruction)				
5	Arrangements to be made for transportation of employees and contractors and labourers			Numbers mentioned in Annexure	
6	Emergency kit, food supplies and drinking water checked and tested.				
7	Communication mediums like UHF, mobile phones and PA systems checked				
8	All the personnel working on jetty or nearby seaside are to be moved.				
9	Ensure emergency teams [Fire, Safety, Security, Marine, Operation, Engineering, Stores, Admin, Railway] are ready.				
10	Residential area of labors inside the port needs to be shifted until the situation gets controlled				
11	Visitors' evacuation is ensured				
12	Ensure that no personnel should be inside the hatch and hatches are to be closed				
13	Ensure that details of contract workforce [head-count] at the time of evacuation or shifting				

During	g Effective Period		
1	During the event, the safest place is a terrace of structured building.		
	Move away from seaside as far as much you can		
2	If possible, evacuate the port and move as fast as possible away from the shore line. Follow the evacuation plan		
3	Assemble at emergency assembly point and evacuate the area, when announced. Ensure all company and contract employees are present		
4	Emergency team to coordinate and act as per the guidance		
After	Effective Period		
1	Assess damage to equipment and buildings, and record the conditions		
2	Take head count of personnel		
3	Initiate restart/repair process		
4	Photographs to be taken for assessing damages to cargo and property for insurance		For insurance purpose
5	Ensure that site-round is taken, report prepared and submitted the observations to all concern for compliance		
6	Communication to be sent to all clients regarding assessed and potential damage to cargo		
Pre-As	ssessment Checklist [Preparedness in Early Stage]	'	
1	Enusure that emergency team has been prepared along with roles & responsibility		
2	HODs have a meeting above the impending emergency steps		
3	Ensure each representative of each department has a substitute (Dry Cargo, E&I, MHS SR, MHS Conv, MHS GSU, MHS WLS TLS, MHS Utility, ES CWS, ES Civil, Fire, Safety, Security, Marine, Railway, Admin, Store, IT etc)		
4	Ensure that emergency siren is working		
5	Ensure that PA System/VHF/Base station are working		
6	Ensure that list of Emergency Contact Numbers are displayed		
7	Ensure that all employees, contractors/vendors/visitors/other customer are aware of emergencies and preparedness		
8	Ensure that site-round is taken, report prepared and submitted the observations to all concern for compliance		
9	Ensure all jobs carrying out on height work (or jobs which require scaffolding) to be monitored and controlled		
10	Ensure that Emergency kit contains following items; torches, ropes, wires, tarpaulins, plastic sheets, tool kit, duct tapes, assorted gears, first aid box, sand bags		
11	Ensure that respective HOD/HOS have inspected areas		
12	Ensure that all the important document are preserved at a proper place		
13	Ensure all the customers/surveyors have been informed regarding emergency situation and preparedness		
14	Ensure proper communication with Security for traffic control of dumpers/trucks		
15	Ensure proper communication with railway department (Govt) for rake movement with respect to emergency		
16	Ensure proper communication with transporters and agents for their role in case of emergency		
17	Ensure electrical isolation of machines/equipment		
18	Ensure that wind anemometer is working in all equipment (i.e. stacker-reclaimer, GSU)		

19	Ensure that any information from CCR/higher authority must be passed on to the downstream		
20	Ensure that all drains, sock-pits etc are cleaned off		
21	Ensure proper communication with the vessels and tugs for actions required		
22	Ensure proper communication with the emergency boats		
23	Ensure proper communication with the POC for further information/ updates/news of respective emergency from disaster authority/ Govt agencies		
24	Refer to the General DMP Checklist of West Basin [Departmentwise/Sectionwise]		

QHSE&F - Emergency Preparedness							
Emergency Response.							
Tsunami- Checklist							
Sr. No.	Activity	Yes	No	Remarks			
Inducti	ion and Training Program.						
1	Arrange indduction /training program for all personnel on emergency preparedness & its awareness			Part of Induction/ training program.			
2	All concerned employees and contractual staff informed about the assembly point & evacuation locations						
3	To arrange emergency drill for dealing with such emergency			To be made part of emergency drill.			
4	To arrange necessary training for emergency response team/CMG/First Aid Team/Medical Team/Fire rescue team to deal with emergency. (Ensure availability of trained rescue team & necessary equipments all the time)						
5	Arrange training for all QHSE&F team member for emergency response & clear cut understanding of their cruisial roles & responsibility during emergency						
6	To prepare & check effectiveness of Emergency Response Plan/ Disaster Management Plan						
7	To do proper co-ordination with all concern department for maintaining necessary emergency response kit & necessary aids in required inventory or make identified supply of the same during declaration of such emergency						
8	To maintain close co-rdination with mutual aid for dealing with emergency						
During	Effective Period						
1	Assist CEO/Executive Director (Corp. Affairs). as instructed						
2	Co-ordination with respective HOD/HOS with respect to emergency actions						
3	Ensure necessary action through CMG. Provide necessary assistance to CMG						
4	Assist in evacuation of all personnel except key personnel						
5	Provide HSE & F facilities (Assist for rescue, evacuation, and other necessary arrangement)						
6	Set up casualty collection centre and arrange first aid posts						

7	Arrange enough stock medicines, antidotes, oxygen and stretchers							
8	Arranges additional medicine and equipment as required							
9	Arrange a fully equipped Ambulance in ready state							
10	Make arrangements for mobile casualty to reach at incident sites and transporting for further treatment							
12	To do immediate co-ordination to mutual aids for necessary help/ support if required							
After	Effective Period							
1	Assist to CEO/Executive Director (Corp. Affairs)							
2	Assess damage (human) and send for further treatment							
3	Assess the property damage and prepare report							
4	Assist all HODs with restoration							
5	Perform necessary rescue through rescue team where needed							
6	Check each & every effecetd area & arrange for necessary HSE& F actions as require							
7	After completion of all rescue, restoration work. Check the effectiveness of executed emergency plan & take necessary require corrective action to update the plan & necessaary facilities if required							
8	To motivate the emergency rescue team, CMG & all concerned, who have perform well during emergency							









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# Adani Ports and Special Economic Zone Limited, Mundra.

From : April,16

To: September,16

Status of the conditions stipulated in Environment and CRZ Clearance

# **ANNEXURE - 11**

#### **ENVIRONMENTAL PROTECTION EXPENDITURES** (April'16 to September'16) Activity / Category Expenditure (INR) in Lacs Environmental Study / Audit and Consultancy 158.14 7.39 Legal & Statutory Expenses **Environmental Monitoring Services** 15.48 7.50 Hazardous Waste Management & Disposal **Environment Day Celebration** 6.54 0.69 Treatment and Disposal of Bio-Medical Waste Mangrove Plantation 30.00

Sr.

No.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

Mangrove Monitoring & Conservation

Expenditure of Environment Dept.

O&M of Sewage Treatment Plant and Effluent

Treatment Plant (including STP, ETP of Port & SEZ & Common

Total Environmental Expenditures in Lacs (INR)

Horticulture Expenses

Effluent Treatment Plant)

(Apart from above head)

20.26

498.00

41.43

112.47

897.90



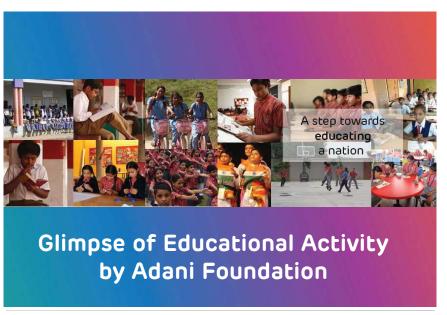
# Adani Ports and Special Economic Zone Limited, Mundra.

From : April,16

To: September,16

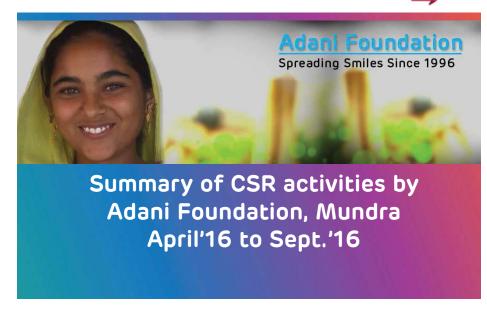
Status of the conditions stipulated in Environment and CRZ Clearance

# **ANNEXURE - 12**



adani

# adani



#### Education:

- Mind power and Goal settings Training in Government School Bhujpur and Tunda Wandh about 95 students took part in it.
- Inauguration of Satellite Leaning Centre/Adani Education Development Centre in June 2016.
- Total more than 80 students benefitted, minimum level exams taken. Students are
  distributed as per their levels after minimum level test. Course material is designed
  for all level. Not only study we do over all personality development and personnel
  meeting with each students.

#### Education Fisherman:

- Children of Balwadi are now able to read write and speak A B C, Drawing very well.
   Moreover they are also teaching other fellow students. Regular Mother's meet organized on various topics.
- Science Exhibition organized at Zarpara(Chacha). Total-87 Students had benefited
- Arrangement of Transportation Facilities for School Going Children from Bandar to respective villages. Presently We have made arrangements for Luni Bandar-53 Students and Bavadi Bandar-44 & Sekhadiya-7 Total-104 Students are being benefited.
- As Education initiative for children at Balwadi are able to read write and speak A B C, numeric 1-50 very well. Moreover they are also teaching other fellow students.
- Training organized for Balvadi teachers and helpers at "Timba Ashram Shala, Surat".
   Main objective of the training was "SARJAN": New useful craft work from Waste materials and natural materials, Learning by Music, new initiatives to engage small kids, entertainment from Balgeet and plays etc. Total 8 Balvadi Teachers and Helpers have taken part.

#### Contents

- Education Initiatives
- Community Health Initiatives
- Sustainable Livelihood Initiatives
- Rural Infrastructure Development Initiatives
- Adani Skill Development Initiatives
- CSR Budget
- Media Corner

#### Adani Vidhya Mandir Bhadreshwar: Shaping Lives



























# Working towards building a healthier community

Glimpse of Community Health Activity by Adani Foundation

#### Adani Vidhya Mandir Bhadreshwar : Shaping Lives

- School Educational Activities:
- > Second semester annual exam started from 2<sup>nd</sup> April 2016.
- $\triangleright$  Starting of new academic year of std.-10<sup>th</sup> on 18<sup>th</sup> April 2016.
- > Books Exhibition on behalf of "Pustak Din" celebrated by Students of Std:1 to 9
- > Elocution competition was organized of std. 8 & 9 on the eve of "Gujarat sthapna divas"
- > Remedial class continue from 1st week of May
- > Environment Day celebration by Rally and Street play,
- 2ndInternational Yoga Day Celebration
- > Open House Meeting of Std.-10 IN July 2016.
- > Kitchen garden Concept as a part of education
- > Exposure tour of Std:- 3 & 4 as a part of education at Adipur (Pataliya Hanuman, Shinay) in July 2016
- > Essay Competition of Std:- 7 to 9 & Mathematics quiz competition of 7 to 10
- > Science fair organized by Govt. at Nana bhadia village, Near Mandvi, our two students participated in this fair with "Modern traffic signal" module in Aug. 2016
- > Average Students Strength:- 377 Out of 396
- > Oral test surprise examination of Std:-1 to 10.
- > " World Ozone day " celebration.
- House visit of Irregular Students.
- Students & Teachers participated in Svachhata Abhiyan organized by Govt. & Mrs. Chhaya ben Gadhavi (Chairman DEC-Kutch bhuj), TDO & Mamlatdar, Mundra were present in this program)

adani

#### Overview: "Suposhan Project"

- To curb malnutrition amongst Children, Adolescent girls and Women in our CSR villages
- To reduce malnutrition and anaemia amongst adolescent girls and pregnant & lactating women by 70% in three years
- To create awareness about the issue of malnutrition and anaemia and related factors amongst all stakeholders and role they may play in curbing the issue
- To create a pool of resources to be utilised for combating the issue of Malnutrition and Anaemia
- To support efforts in reducing IMR and MMR

#### Strategy: "Suposhan Project"

- Community based intervention with Community Health Workers from local communities. (Sangini)
- Each child and especially malnourished will be mapped with
- Regular inputs of THR, RUTF and other micronutrients treatment when necessary facilitated via Govt. Schemes and if necessary through AF
- · FDGs with mothers and adolescent girls
- · Village meeting one in a month at every village
- Health camp every month
- Awareness campaigns
- Cross Functional, across locations learnings

#### Outcome: "Suposhan Project\_"

- Reduction in occurrence of malnutrition amongst Children by 95 % in three years
- Reduction in malnutrition and anaemia amongst adolescent girls and pregnant & lactating women by 70% in three years
- Create awareness about the issue of malnutrition and anaemia and related factors amongst all stakeholders and role they may play in curbing the issue
- Create a pool of resources to be utilised for combating the issue of Malnutrition and Anaemia
- Support efforts in reducing IMR and MMR

#### Community Health: Mundra

	Mobilevan OPD April to Sep-2016						
Month	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Total
OPD	2714	2873	2947	3262	3,197	4,384	19,157

Rural Clinic OPD April to Sep-2016							
Month	16-Apr	16-May	16-Jun	16-Jul	16-Aug	16-Sep	Total
OPD	2764	2505	3055	3550	3,712	3,659	19,245

Senior Citizen Scheme						
Month	OPD	IPD				
April	674	3				
May	648	0				
June	695	3				
July	754	3				
Aug,	782	33				
Sep.	810	12				
Total	4363	54				

Poor Patients Support : 384
Patients had been supported for treatment of illness.

Mobile Dispensaries & Rural Clinics						
During this six month, total <b>19157</b> patients						
were provided with free Health Care						
Services by Mobile Dispensaries at 26						
villages and 6 Fisherfolk settlements .						
<b>19245</b> patients benefitted by the medical						
services at Rural Clinics at 11 locations.						

Health Cards to Senior Citizens

During the month, total 4417 transactions were done out of 7487 card holders by beneficiaries Sr. Citizens of 65 Villages Mundra Taluka and they received cash less medical services Under this project.

(Accessed)			With the Principle			
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		<b></b>	933			

#### Overview: "Suposhan Project"

Selected Sangini Detail							
No	Detail of Village & Sangini						
1	Total Block Villages	61					
2	Total selected sangini village cover	55					
3	Pending Villages	06					
4	Total Anganwadi in Mundra	104					
5	Total cover Anganwadi	93					
6	Pending Anganwadi	11					



#### "Suposhan Project"

HB Testing & Anthropometric Study Training & Meeting Agenda & discussion details.

- Introduction sessions for Sangini & project.
- Base line basic Survey & Anthropometry study experience sharing to each other.
- Guidance by CDPO & Team members (ICDS, Mundra) aware about Anthropometric study basic & important tools use in time of study.
- Training for HB Testing & Anthropometric study through growth chart & MUSC Tap. HB Testing Machine & Information sharing about Growth Monitoring through Growth Chart & Adolescent group formation for HB Testing.
- Discussed about Group formation for Mother & Adolescent girl.
- Distribution for Weight Machine, Measurement tap, MUSC Tap, IEC Material



#### Community Health All Project Data at Adani Hospital -Total OPD & IPD for April to October-2016

Name of Dep.	Sr.Ci	tizen	Medica	l support		itrition nild	Physio camp	Dialysis Project	Total
Month	OPD	IPD	OPD	IPD	OPD	IPD	OPD	OPD	
April	674	3	112	5	3	0	16	31	844
May	648	0	57	1	0	0	2	37	745
June	695	3	60	1	7	2	0	35	803
July	754	3	61	6	2	1	0	43	870
Aug,	782	33	172	13	0	0	0	47	1047
Sep.	810	12	149	21	0	0	0	45	1037
Oct.	866	5	126	6	0	0	10	46	1059
Total	5229	59	737	53	12	3	28	284	6405

#### GAIMS: Health is Wealth ....



OPD/IPD Data April-16 to Oct-16					
OPD	IPD				
16221	2130				
15652	2223				
15420	2232				
16819	2396				
18494	2597				
19121	2575				
17919	2471				
	OPD 16221 15652 15420 16819 18494 19121				





# Glimpse of Sustainable Livelihood Initiatives by Adani Foundation

#### Community Health: Mundra Overview



#### GAIMS: Health is Wealth ....

- Total 5547 Patients received Special Care and Coordination upto Oct 16 at GKGH regarding Hospital, Lab, OPD Department, Ward and Pharmacy Service.
- During six months Different 225 Village Level Meetings Organised with Sarpanch, Leader, Women Groups and other Stakeholders.
- We have Started School Health Check Up Under the "Safe child Project" in this six months Total 24 Schools Covered and 5692 Students has been benefited in camp.
- In this six months Total 304 dead bodies were shifted to different villages in Kutch District.

	Mobile Health care unit at Bitta							
No	Village	Population	Total Patients					
1	Bitta	1149	96					
2	Nani Dhrufi	504	126					
3	Moti Dhufi	472	48					
4	Bharapar	243	22					
5	Bavanipar	733	146					
6	Hamirpar	241	39					
7	Balapar	67	48					
8	Khanay	521	111					
	Total	3930	636					

Safe Child Project/ School Health Checkup						
No of School	Covered	No.of Student	Covered			
	24	Otto Cinc	5692			

Death Body Van and Hospital Death Data								
Sr No.	Month	Death in GKGH						
1	April	51	21	72				
2	May	46	88	134				
3	Jun	52	51	103				
4	July	51	64	115				
5	Aug	50	65	115				
6	Sep	54	18	72				
	Total	304	321	Q 1 <sup>625</sup>				

#### Sustainable Livelihood Programme

#### Agriculture Programme with KVK

- We have initiated Programme for Awareness of Farmers in collaboration of KVK. Outreach is approximate 15 farmers at 1 villages
- Subject: Kitchen Garden Kit Awareness and Soil Health cards analysis
- Date Palm Marketing Linkages: more than 700 Kg Selling at Adani Residential Colonies, Ahmedabad and Surat.
- During six months we have given 43,797 mann fodder worth Rs.95.00 Lacs approximately.
- Organic farming Related Demonstration for "Jivamrut" at Zarpara
- Brief Introduction of Bio gas plant and give knowledge for application process. Give information about Tissue culture Date palm demonstration. Planning & Implementation of NPK fertilizer use for date palm which is received highest rate in this year. Feedback for Fodder Demonstration work
- Visited 30 Farmers and discussed about results of Jivamutra and Kitchen Garden Feedback & "Agri Asia" Agriculture Technology Exhibition
- Animal Hostel visit Himatnagar and Gauchar Development workshop attended by Jayram Rabari and Karsan Gadhavi







#### Sustainable Livelihood Programme

#### Women Empowerment Programmes

- \* Meeting with the women group at Various Village.
  - Point Discussed:
  - ■To maintain regular Group Register
  - •To practice of Personal loan and group loan register
  - \*To regular of Monthly meetings Tharay
- Saheli Mahila Gruh Udyog
  - Washing Powder 2140 kg Rs. 1.60 Lacs
  - Phynayle 500 liter Rs.0.15 Lacs
  - Non woven bags Rs. 0.35 Lacs
  - Fresh Food Rs.O.11 Lacs
- Total Sale: Rs. 2.21 Lacs
- "Beti Vadhavo Abhiyan" initiative has been taken by Adani Foundation in order to change the mindset of our society and think positively towards the girl child since three years. We are greeting each girl child born in Mundra Taluka with Kit including (one pair cloth, soap, shampoo, powder, mosquito net, bed sheet and nutritious food for mother).
- In September, by Joint efforts of Taluka Health Office, ICDS and Adani Foundation has organized Taluka Level Seminar on Beti Vadhavo Seminar in which Chhaya ben Gadhvi (Chairman, Jilla Education Board) remained present. We greeted 187 baby girls of Mundra Taluka.





#### Fisherfolk Amenities

#### Coordinatio

- Our intervention for Randh Bandar is started after serioes of meeting with leaders as well as
  individual fisherman. Water tank work and electrical connection work is in progress. At Juna
  bandar Pagadiya road and shelter work is in progress,
- · Zarpara Chacha individual toilet construction for 60 House hold is completed
- Exposure visit arranged at fishermen friends of Juna bandar village, Mundra to Veraval RC of ICAR-CMFRI. The presentation and lecture delivered on "Sea cage farming of finfishes and shellfishes" by Dr. Suresh Kumar Mojjada during the exposure visit was very useful to our fisher folk and meaningful.
- Safety awareness program for fisherman community was organized on 16th Sep 2016 in coordination with Indian coast guard, Air force and Fisheries department. Commandant Pradip Kumar did live demo for using different equipment like boya, ring and life jackets for safety purpose. Mr. Mukesh Saxena had given information about coastal safety and measures
- Support in preparation of SEZ Entry pass including form filling at Navinal-43 & Chacha Zarpara-68 & Zarpara village- 11 Total-122 pass
- Polyculture is our pilot project for alternative livelihood for fisherman in coordination with GUIDE.
- Training was arranged at Adani house to create awareness for the projects and steps of implementation.
- After providing training, within seven days fabrication of cage on actual site was started.
   Cage fabrication was done by fisherman of Juna Bandar under expert guidance of scientist of GUIDE. One cage is ready and floating on water.



#### Fisherfolk Amenities

Man-days Painting Labour									
Name of Fishermen	Year-2015-16	16-Apr	16-May	16-Jun	16-Jul	16-Aug	16-Sep	Apr to Aug Year-16-17 Total	Order Amount Rs.
Vagher Talab Osman	2969	70	0	278	115	115	200	948	3262568
Vagher Abbas Suleman	2961	240	400	268	185	70	168	1535	3417469
Vagher Mubark Iliyas	1090	150	40	160	232	145	150	987	1903536
Total	7020	460	440	706	532	330	518	2986	8583573

Mangroves plantation and maintenance : 2960 man days employment given till date









	Man-days							
Sr.	Name of Fishermen	Village	Jul	Aug	Sep	Oct	Total	Order Amount Rs
1	Mubarak Alimamad Vagher	Shekhadiya	167	167			334	100200
2	Abdul Satar Jam	Shekhadiya	167	167			334	100200
3	Ismail Hajibhai Jam	Shekhadiya	167	167			334	100200
4	Sidhik Hasan Reliya	Luni	216	216			432	129600
5	Latif Suleman Manjaliya	Luni	183	183			366	109800
6	Jakab Hasan Manjaliya	Luni	290	270	115	60	735	340000
7	Manek Jakariya Suleman	Bhadreswar	292	308			600	180000
	Total		1482	1478	115	60	3075	1060000
We have supported 42 Basadiya Fisherman as a spinting Labour								

We have supported 42 Pagadiya Fisherman as a painting Labour.

#### Rural Infrastructure Development: Building Block of the Society

Adani Foundation has designed, planned and built a strong infrastructure for bettering education, community health, agriculture and living standards, all according as per official requests and demands of people of the community and the Gram Panchayat.

#### Work Completed:

- 1. Mota Bhadiya- village pond deepening
- 2. Mota Bhadiya- cd pond deepening
- 3. Dhrub- Pond deepening and bund strengthen
- 4. Mundra- Paver block in road sides at Pipleshwar way.
- 5. Mundra, Baroi, Goersama and Luni- Svachhata Abhiyan
- 6. Mundra- Fixing of sitting chair 3 Nos in police station
- 7. Bharadi Mata Mandir- Supply of solar light 5 Nos
- Shekhadia- Road strengthen work of Pagadiya fisherman way.
   Shekhadia- Murrum filling in crematorium of fisherman
- 10. Old bander- Re-painting work in toilet blocks, Balwadi
- 10. Old ballder- Re-painting work in tollet blocks, t
- 11. Luni bander- Soak pit cleaning work
- 12. Modhava- crematorium wall
- 13. Moti Bhujpur- Construction of road near river
- 14. Luni bander- Approach road for Pagadiya fisherman
- 15. Siracha- Shed and compound wall in Samajwadi



adani







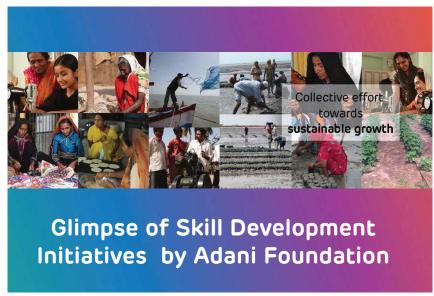
#### Sustainable Livelihood Programme

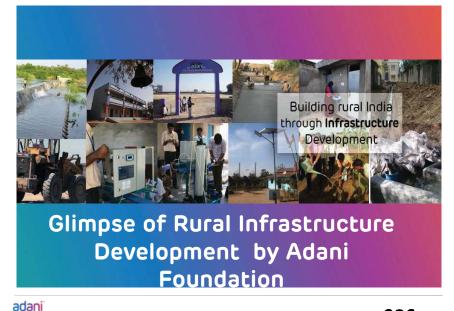
#### Pantion Scheme for Widows, Senior Citizen and Handicapped from Government

- We are playing the role of facilitator in case of tie up with Government Scheme for Widows, Senior Citizens and Handicapped people.
- The identity cards are issued to two persons for the handicapped in coordination with Bhuj Samaj Suraksha Khata for regular visit and follow up.
- During the period, 59 widows and 39 Senior citizens and 2 handicapped total 100 members got benefitted from the approval of pension certificate. The financial benefit of the senior citizen Yojana is Rs. 400 per month and the widow scheme is of Rs. 900 per month. (Total direct financial benefit: Rs. 51100)









#### Visitors

- Mr. Michael Stephen, Mr. David Moor & Ms. Allison
  Joyce, Journalist Team from Australia along with
  MR. Jeyakumar Janakaraj (CEO Australia Port)
  Visited Juna bandar for Adani Foundation Activity
   & Discussion with Fisher folk Group.
- Visit of Mr. Naren Karunakaran-The Economics
   Times on 28th June, 2016-visited Luni bandar and
   discussed with local fisherman about Mangrove
   plantation work at Luni site. He also visited Juna
   bandar & Discussed with Fisher folk Group for
   activities of CSR by Adani Foundation.
- Visit of Mr. Sudhakar B.- Head HR Energy Business- visited at Junabadar for Adani Foundation Activity & dissuasion with Fisher folk Group.
- Visit of auditors of OeEB Bank for review of CSR
  Activities at Juna Bandar. Presentation and
  information sharing was arranged at Adani House.





#### Adani Skill Development Center: Mundra

Along with computer related trainings, Stitching and Bagging training, Beauty Parlor and Mobile Repairing Training are also in full fledge at Nana Kapaya, Adani Ports, Zarpara and Mundra

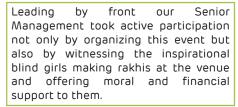
Course wise status, 1st April 2016 to 30th September 2016							
Soft Skill training							
Sr. No.	Course Name	Location	Male	Femal e	No.of students		
1	IT Basic Computer	ASDC Mundra	10	1	11		
2	IT Basic Computer	ASDC Mundra	6	3	9		
3	Tally Erp9.	ASDC Mundra	4	2	6		
4	IT Basic Computer	ASDC Mundra	2	2	4		
5	Vocation Training	Zarpara Gov.High School	59	36	95		
6	Basic Computer-RTG student	ASDC Mundra	16	0	16		
7	Basic Computer-RTG student	ASDC Mundra	8	0	8		
		Total - A	105	44	149		
Technical Training							
1	Mobile Repairing	ASDC Mundra	12	0	12		
2	Stitching & Bagging Machine Operator	APSEZ	7	0	7		
3	Beauty Parlour	Nana Kapaya	0	24	24		
4	Beauty Parlour	ASDC Mundra	0	21	21		
5	Checker Cum RTG Crane Operator	APSEZ	14	0	14		
6	Tailoring	ASDC Mundra	0	18	18		
7	Tailoring	ASDC Mundra	0	13	13		
		Total - B	33	76	109		
		Grand Total A + B =	138	120	258		

#### "Tamaso Maa Jyotirgamaya"... From Darkness Lead Us to Light



"Best Example of Hindu Muslim Unity"

Fisherman leader of Navinal Anwar bhai created best example of Hindu Muslim unity by tying Rakhi from differently abled girls from Andh Kanya Prakash Gruh, Ahmedabad. Not only that, They gave donation to institute... This shows binding of our team so deeply and socially with fisherman community...





#### Adani Skill Development Center: Mundra









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#### **Important Events**

- "Beti Vadhavo Abhiyan" initiative has been taken by Adani Foundation in order to change the mindset of our society and think positively towards the girl child since three years. We are greeting each girl child born in Mundra Taluka with Kit including ( one pair cloth, soap, shampoo, powder, mosquito net, bed sheet and nutritious food for mother). By Joint efforts of Taluka Health Office, ICDS and Adani Foundation has organized Taluka Level Seminar on Beti Vadhavo Seminar in which Chhaya ben Gadhvi (Chairman, Jilla Education Board) remained present. We greeted 14 baby girls of Mundra Taluka.
- With objective of curb malnutrition amongst Children, Adolescent girls and Women in our CSR villages and to reduce malnutrition and anaemia amongst adolescent girls and pregnant & lactating women by 70% in three year which will result for reducing IMR and MMR – Adani Foundation started Project Suposhan in Eleven States where Adani group is working. With combined efforts of Adani Foundation health team, ICDS and Child malnourishment treatment centre of GoG, we have organized Suposhan Camp in which we have identified 45 malnourished children and started intervention as per their illness.

#### **Important Events**

**Samanvay** - A Seminar was organized to define social responsibility with the perspective of Development on September 20, 2016 at Adani House, Auditorium, Port road, Mundra, Kutch.

More than 35 Organizations namely Agakhan Rural Support Programme, Kutchh Navnirman Abhiyan. Vivekanand Research & Training Institute (VRTI), Navchetan Andhjan Mandal, Welspun Limited, Coastal Gujarat Power Limited, Ashapura group of industries, Sarv Seva Sangh, Kutch Mahila Vikas Sangathan (KMVS), Arid Community & Technology, SETU, Sahjeevan Trust, Veerayatan and Yusuf Meher Ali Centre (YMC) etc. took part in this Seminar.

The Chief Guest: Shri Apurva Oza (CEO, Agakhan Rural Support Programme) and other Distinguished guests were:

Mr. Lalji Prajapati, Navchetan Andhajan Mandal

Shri Lalbhai Rambhiya, Head CSR AARTI Group of Industries

Shri Ramesh Gor, Coordinator, Vivekanand Research & Training Institute

Smt. Raginiben Vvas (Head-CSR, Ashapura group of Industries)

Dr. Punam Gupta (Welspun Limited)

Smt. Lataben Sachdey, KMVS

Shri Pradip Ghosal (Head - CSR, CGPL)

Dr. Yogesh Jadeja, Arid Community & Technology

Shri Dharmendra Kumar, Director, YMC

Shri Jadavjibhai Shethia, from Sarva Seva Sangh

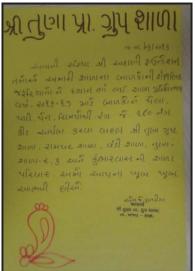
#### **CSR Budget**

Adani Foundation, CSR Budget - Mundra								
(April-2016 to September-2016)								
Sr. No.	Program	Budget 2016-17	Expenditure					
311 1101	i rogram		Apr.16 to Sept.16					
A.	Admin Expense	136.44	62.54					
В.	Education							
(i)	Education Initiative	49.40	12.28					
(ii)	Adani Vidya Mandir- Bhadreshwar	125.78	46.19					
(iii)	Shanti Vihar (Project Udaan)	303.26	109.53					
	Sub Total	478.44	168.00					
C.	Community Health	271.18	62.37					
D.	Sustainable Livelihood Development	240.90	117.97					
E.	Rural Infrastructure Development	408.24	105.30					
	GRAND TOTAL 1535.20 516.18							

#### **Important Events**

- We had organized Model Making Competition among Technical Students of Kutchh District
  in Aug 2014. Three Winners of the Competition constructed replica of their model at Nana
  Kapaya, Baroi and Gundala Village under guidance of Engineers Team of Adani Foundation Which
  will be used as Medical Center at Gundala and Nana Kapaya and residence for poorest of poor at
  Baroi Village. Launching of Booklet of process documentation and Certification of
  Students organized on 9th July 2016.
- Adani Foundation, Mundra organized Cricket Tournament, "Adani Premiere League" among
  fishermen community to promote healthy sportsmanship and harmonically transparent
  community relationship among fisher folk of Mundra and Anjar Taluka from 13.07.2015 to
  23.07.2015. The Adani Premiere League by Adani Foundation started on 13.07.2016 at Shantivan
  Colony Cricket Ground. Total 44 Teams of 12 villages and 528 Fisherman participated. Teams from
  Villages Zarpara, Navinal, Shekhadia, Modhava, Salaya, Mundra, Tragadi, Luni, Sanghad, Gundiyali,
  Bhadreshwar & Vandi (Tuna) participated with great enthusiasm.
- Safety awareness program for fisherman community was organized on 16th Sep 2016 in coordination with Indian coast guard, Air force and Fisheries department. Commandant Pradip Kumar did live demo for using different equipment like boya, ring and life jackets for safety purpose. Mr. Mukesh Saxena had given information about coastal safety and measures.
- Adani Foundation Mundra has organized "Panjo Medavo" Programme on 27th Aug 2016 Saturday Evening. Total 170 local people including Sarpanch, village leaders and NGO working for welfare of community including media.
- Adani Vidya Mandir gives momentum to "Swachchh Bharat" movement at Bhadreshwar in coordination with government schools of Bhadreshwar. Total 450 Students participated in drive Several activities were carried out during the day that marked the uniqueness of this day.

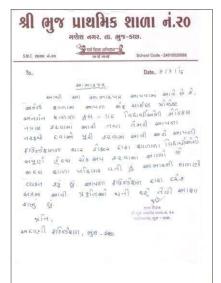
#### **Appreciations Letters**





#### adani

#### **Appreciations Letters**





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#### Media Coverage

#### KARESZ I pro-so-so n esseus op આવે રાયદાશપરમાં બાળકો માટે સર્વરોગ નિદાન કેમ્પ

ભૂજ,તા. ૪ : તાલુકાના રાયધલપર મધ્યે અદાશી કાઉન્ડેશન દારા બાળકો માટે સર્વરોગ નિદાન કેમ્પ તા. પ/ર સોમવારના યોજાશે. ગામની પ્રાથમિક શાળાના ખાળકો માટેના સર્વરોગ નિદાન કેમ્પમાં જ કે જનરલ હોસ્પિટલના તબીબો સેવા આપશે અને જિલ્લા પંચાયતના મેડિકલ ઓક્સિર છે. પાંકે સહિતના અધિકારીઓ ઉपरांत भुष ता. पं. प्रमुख કુંકુલેન ચાવડા ઇપસ્થિત ઓંધો





#### લક્ષ્મીપર (તરા) ગામે ચોજાચેલા મેડિકલ કેમ્પમાં ૩૦૦ દર્દી આવ્યા

અદાશી કાઉન્ડેશન અને કે.વી.એમ.એરા. દ્વારા કરાવેલું ભાવોજન

#### **Appreciations Letters**





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#### રામનગરીમાં મેડિકલ કેમ્પમાં 325 દર્દીએ લીધો લાભ

પર્યાવરણ દિન નિમિત્તે કરાયું ઇકોફેન્ડલી બેગનું વિતરણ

ભારકર ન્યૂઝ, ભુજ

અદાણી કાઉનેશન દારા એના.સી.ડી ક્લિનીક ભુજ તથા એસ.ઓ.એલ. વિલ્ફન્સ વિલેજીસના સહયોગથી તથા એન.સી.ડી. ક્લિનીકમાંથી

ભુજ શહેરના સમનગરી વિસ્તારમાં ડો.રાજેશ ખરેટ દ્વારા દર્દીને નિ:ગુલ્ક જનરલ મેડિકલ કેમ્પનું તપાસાયા હતા. યોગ્ય નિદાન આયોજન કર્યું હતું, કેમ્પમાં 324 અને સારવાર કરાઇ હતી, કેમ્પને લાભાર્યીઓએ આરોગ્ય સેવાનો સફળ બનાવવા માટે SOS વિલ્ડ્ન લાભ લીધો તથા એન.સી.ડી. વિલેજીસ તરફથી મિતેષ પંચાલ

ક્લિનીક દ્વારા 200 લોકોના બ્લા અંકિત ચૌહાણ, તરૂણાર્મન શર્મા પ્રેશર તથા ડાયાબિટીસનું ચેકઅપ તથા સ્થાનિક આગેવાનોનો સહયોગ કરાયું હતું. વિશ્વ પર્યારવલ મળ્યો હતો. અદાલી કાઉન્ટેશનના દિનની ઉજવણી નિમિત્તે કેમ્પના આરોગ્યના પ્રોજેક્ટ ઓફિસર લાભાર્થીઓને ઇકોકેન્ડલી લેગનું કિશોરભાઇ ચાવળ તેમજ સ્ટાક રામજુભાઇ બરારીયા, મયુરભાઇ

ોલ્ડા કરાયું હતું. - સમજનાઇ નશાસના, નયુરનાઇ કેમ્પમાં ડો.એસ.એસ.ત્રિપાર્ટી, ગરવા, અંજનામેન આદિર તથા ડો.રાહુલ પટેલ, ડો.કિચ્મા એન.સી.ડી. સેલમાંથી ધર્મેન્દ્રભાઇ ડોલીયા તથા ડો,પ્રદિય મકવાણા ગઢવી જહેમત ઉઠાવી હતી,





કેમ્પમાં ૩૨૪ દર્દીએ લાભ લીધો

શહેરના રામનગરીમાં સદાશી १त. ६२ वेर.को.वेर.व तक्वीणे आवोपन इरावुं

સા કરવા છે. સત સાર વિપાડી, છે. રાહુલ પટેલ, હે દિલ્લા હેલ્લા હતા હે. ક્રદીય મકરાશા હવા સેનાસી હૈ ક્રિલિયાથી છે. રાજા મારે દાર દર્શિલને તપાસવામાં આગ હતા તેમજ ચોલ્ય નિકાન અને સારકાર સરવામાં આગા હતા.

KERSES 1

VEHICLE AS MICH SE 95, d. 17 : dgid भारतार विभिन्न एक शिला પંચાયત સારાં ગ શાળા, આપથી હોસ્પિક-ભૂજ અને अधारुव परमेश के कुमान

ध्यांजानं साम सीयो दर्श

वंपाल प्रथमीयो ता. १५ना ોપની હતાં, જેનો ૪૦૦ મારાંગ વિભિન્નુ દીવ માગરાદિત મુખ પ્રેકાલમન રોંપની કરવતા દહીએ અ નો જો દીવ સાગાલ જિ.વે. સમુખ કોઇ ભાગને માં ધાર્યાને માંધાર્થીયાં, ભુજ તા.પં. સભુજ કુંમુન પાલા, રિ.પં. માંધામ હાય પ્રમુખ ફેલન પાવડા હાય હજા પાવેલીન રાહોડ

क्षरं र विवर्धनं यू, मारपा विका उपकृत मांज्यात परवा, विका मारेजन क्षतिन હરિકોના ૧૯૧૧ દરિયાઇ અદિવા, દુક્તા તાપ સામ

વારા વેલાના વારાવાના માત્ર કરવાના માત્ર કરવાના માત્ર કરવાના માત્ર કરવાના માત્ર કરવાના માત્ર કરવાના માત્ર કરવાન વાર્લા, કુલિ, સહાર્થાન માત્ર વેલા વાર્લ ન લાં સ્ટેલ્સ કરવાના માત્ર કરવાના માત્ય કરવાના માત્ર કરા માત્ર કરા માત્ર કરા માત્ર કરાના માત્ર કરાવાના માત્ર કરાવાના માત્ર કરાવાના માત્ર કર લાલા હાર કાર્યું કરે. આ કાર્યું લાકો એક લાગામાં કુલ કરામાં માતા ત્રાપ્ત કરતો માતા કરતો છે. લાય દિવિષ્ટ નિયાન તથીએ. એવા હેતુ કાલ આ ક્યાં વેલાવા. સ્ત્રીરાંગ નિયાન તમીએ કરી. આમાર અને સ્ત્રીરનો. કાર તલાક અને સારકાર થયે. ફોલાનું જિ.પ.. અલગા. હતી. ૧૮ મારકોની ત્યાર . જિ.પ. અલગા. સીમતે

को बात पहर प्रधान परिवर्त । विकास ने पार्ट्य कुल । वालांग निपाल को १.८८ । परिवर्धिक प्रधान करी अस्त्रीकितक विकेश । वालांग निपाल कर , रेस्टा, रेस्टा, विकास अस्त्री कराया करी 

#### Media Coverage

# દેશ-પરદેશની આજકાલ

એસ.ઓ. એસ.ચિલ્ડન્સ વિલેજસના સંયક્ત ઉપક્રમે વિશ્વ મહિલા દિવસ ઉજવણીના ભાગરૂપે ભુજોડી મધ્યે આરોગ્ય જાગતિ કાર્યક્રમનું આયોજન કરવામાં આવ્યું હતું. જેનું મુખ્ય હેતુ વર્તામાન સમયમાં નવા નવા રોગોનું પ્રમાણ ખુબ ૧ વધત જાય છે. જેમાં લોકોન જાગતતા વધે અને પ્રિએન્ટીવ કેર બહેનો હાજર રહી હતી.



આ કાર્યક્રમમાં સ્વાઈનફલ, માહિતી આપવામાં આવી હતી. ફાઉન્ડેશનના પ્રોજેક્ટ ઓફિસર વર્ષ તે હતો. જેમાં ભુજોડી અને એઈડ્સ, કેન્સર જેવા રોગો અંગે આ ઉપરાંત કેન્સર થવાના કારણો કિશોરભાઈ ચાવડાએ પ્રાસંગીક તેમની આસપાસના સાત જેટલા. જાણકારી આપવામાં આવી હતી. કેન્સર થયા પછી રાખવાની ()દબોધન કર્યં હતું. આ કાર્યક્રમની ગામોમાંથી બહોળી સંખ્યામાં કર્યા રોગમાં શું કરવું, શું તકેદારી તકેદારી અને કેન્સરની સારવાર પૂર્વતૈયારી અંક્તિ ચૌહાણ, મિતેશ રાખવી વગેરે અંગે વિંગતવાર અંગે માહિતી અને માર્ગદર્શન પંચાલએ કરી હતી.

આપવામાં આવ્યું હતું. જેમાં ઈ.એન.ટી. સર્જન ડો. નરેન્દ્ર હિરાણી નાક, ગળ અને બહેનોમાં થતા ખાસ પ્રકારના કેન્સરો વિશે ઉપ્રથમવંક માહિતી આપી હતી. આ કાર્યક્રમમાં એસ.ઓ.

એસ.ના આસિ. ડાયરેક્ટર હિમાંશભાઈ ત્રિવેદીએ ડોકટર અને સાથી કાર્યકર્તાઓનો પરિચય અને કાર્યક્રમના હેતુ વિશે માહિતી આપી હતી. અદાશી



#### ભુજ તાલુકાના ભુજોડી ગામ મધ્યે આરોગ્ય જાગૃતિ કાર્યક્રમનું આયોજન

અદાણી ફાઉન્ડેશન તથા એસ.ઓ.એસ (Save our Soul) ચિલ્ડ્રનસ વિલેજીર ના સંયુક્ત ઉપક્રમે વિશ્વ મહિલા દિવસ ઉજવણીના ભાગરૂપે આયોજન

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#### Media Coverage

૨૦૦ દર્દીઓનું બ્લડ પ્રેશર તથા ડાયાબિટીશનું ચેકઅપ

મુજ,તા.૧૨ તથા ડાયાબિટીસનું ચેકઅપ કરાયું હતું. ફાઉન્ડેશન દારા આ તકે તમામ દર્દીઓને ઈકોફેડલી એન.સી.ડી. ક્લિનિક ભુજ તથા બેગનું વિતરણ કરાયું હતું. કેમ્પમાં ડો.

એસ.એસ. ત્રિપાઠી, ડો. રાહુલ પટેલ, ડો. કિચ્મા ડોલિયા, ડો. પ્રદીપ મકવાણા, એન.સી.ડી. ક્લિનિકના . રાજેશ ખરેટે દર્દીઓને તપાસી સારવાર આપી હતી. એસ.ઓ.એસ. યેલ્ડ્રન વિલેજસના મિતેષ પંચાલ, અંકિત ચૌહાણ, તરણાબેન શર્મા તથા સ્થાનિક આગેવાનોએ સહકાર આપ્યો હતો. કાઉન્ડેશનના આરોગ્ય

એસ.ઓ.એસ. ચિલ્ડુન્સ વિલેજીસના પ્રોજેક્ટ ઓફિસર ક્રિશોર ચાવડા તેમજ સહયોગથી ભુજ શહેરના રામનગરી સ્ટાકગણ રામજી બરારિયા, મયૂર વિસ્તારમાં વિનામૂલ્યે મેડિકલ કેમ્પનું ગરવા, મહેશ બાપોદરા, વનીતાર્બન આયોજન કરવામાં આવ્યું હતું. દબાસિયા, અંજનાબેન આહિર, કેમ્પમાં ૩૨૪ દર્દીઓએ આરોગ્ય એન.સી.ડી. સેલના ધર્મેન્દ્ર ગઢવી, ઉદય

સેવાનો લાભ લીધો હતો. એન.સી.ડી. ચોધરી, ગોવર્ધન ચોધરી વગેરેએ ક્લિનિક દ્વારા ૨૦૦ લોકોના બ્લડપ્રેશર જહેમત ઉઠાવી હતી.

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ભજ શહેરના રામનગરી વિસ્તારમાં નિઃશુલ્ક જનરલ મેડીકલ કેમ્પ

ભુજમાં રામનગરી વિસ્તારમાં નિઃશુલ્ક



અદાલા કરાજકાળ કારા હતા તમજ વાગ્ય ાનદાન -એન.સી.ડી. કલીનીક ભુજ તથા સારવાર કરવામાં આવી હતી, એસ.ઓ.એસ. ચિલ્ડન્સ આ કેમ્પને સફળ બનાવવ

ઓફિસર), ડો. રાહુલ પટેલ (મેડીકલ ઓફિસર, ડો. કિખા ડોલીયા (મેડીકલ ઓફિસર), ડો. પ્રદિપમકવાણા (મેડિકલ ઓફિસર)

આ કેમ્પને સફળ બનાવવામ

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#### Media Coverage



ભુજ | અદાણી કાઉન્ડેશન તથા ગુજરાત અદાણી ઈન્સ્ટિટયટ ઓફ મેડિકલ સાયન્સિસના સંયુક્ત ઉપક્રમે મુન્દ્રા તાલુકાના ટુંડા અને વાંઢમાં નિ:શુલ્ક આરોગ્ય ચકાસણી કેમ્પનું આયોજન કરવામાં આવ્યું હતું. 205 જેટલા દર્દીએ લાભ લીધો હતો. 6 દિવસ ચાલેલા કેમ્પમાં ડો. ડેનિશ રોજિવાડિયા, ડો. ડી.બી. દવે. ડો. દેવન જોગલ, ડો. રાજેશ ખરેટ ઉપાધ્યાય, ડો. ગરવિના ગામિત, દ્વારા દર્દીઓને તપાસવામાં આવ્યા હતો. આ કેમ્પમાં સી.બી.સી., આર.બી.એસ., એલ એક.ટી. જેવા લેખના ટેસ્ટ અને યુરીના ટેસ્ટ તથા ઇ.સી.જી.

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#### અદાણી ફાઉન્ડેશન દ્વારા ભુજને શાળામાં ચોજાચો પરિસંવાદ

ભજ: વરસાદી વાતાવરલ કારણે મહારથી થતા અને પાણીજન્ય રોડ . વાની સંભાવના ખુબ જ વધી જાય છે. તે અટલવવા માટે કેવા પ્રકારની કાયછ રાખવી તેમજ રોછાંદા જીવનમાં અંગત સ્વચ્છતા અંગેની માહિત પંચાના તેતુસર અદાદરી કાર્યન્ટિમાન દ્વારા ભુજ મધ્યે માનુકાયા કન્ય રવાલય - ભૂજ ખાતે આરોગ્ય જાગૃતિ અંતર્ગત ' અંગા સ્વચ્છેતા પરિચલ અને પરિસવાદન' નું આવેજબ કરવામાં આવ્યું હતું. આ ઉપરાંત તાજેતરમાં ભુજ તાલુકાના અનેક ગામોમાં કમળાના દઈઓની બહોળી સંખ્યા જેવા . કપે છે, આપી કમળો ન ઘાયતેના માટે શું કાળછ રાખવી તેમની માહિત . છેન્ટ્રેશન દ્વારા આપવામાં આવી હતી. આ પ્રાર્વક્રમમાં શાળાના મિન્સિયાદ . નેલાલેન પ્રામી, ગેઈમાં છા.કે. જનરલ હોસ્પિટલના મેડીકલ ઓફીસ .એક.એક. રિપાર્કી, અંદાવી કાઉન્ડેશનના પ્રોપેક્ટ ઓફિસર દિયોર ભાઈ ચાવલ તેમજ સ્ટાફ મયુરભાઈ વરવા, રામજભાઈ બસરીયા અને શાળાન શિશકગલે હાજરી આપી હતી. આ કાર્યક્રમમાં કુલ ૧૨૯ વિચાર્થીઓ ગત સ્વચ્છતા અને આરોગ્ય લક્ષી માર્ગદર્શન મેળવ્યું હતું. આ કાર્યક્રમનું ચાલન શાળાના શિલા પ્રભેશ પંડપાએ કર્ય હતું.

ગુજ, લા. ૨૭ : મહીવી મહીતી માપી મહીવમાં પ્રય લું તો જયાર માં મહોગ સમારી કરે દેશ માલ અને **અદારી ફાઉન્ડેશનનું** મેલવામાં કાઉન્ટેશન tim nive arrive

steel as any other acres સર્વને લાક માર હતી. પાલમાં મધ્યામાં મારી હતી, ત્રીકે કેરા મથી હતી. કાલમાં માં પ્રત્યે શાળાના મારાવે. તથા થઇને તપાસની તથા દોત્ર. સિંદલે ભારતીયના લાતિયેન માં કાર્યા પ્રાપ્ય અરલ સ્ત્રિકાશ માં અને સ્ત્રિક કો અને અંગલ ડીંગલા, તેલા કે તેલાવાદ, કાર્યા દેશિયા, હું કે એક્સ્ટા પ્રાપ્યાભાઈએ અને 'કારિયાલાયા ૩૪' દૂલભાર, કેમ્પ્યુંય, ઉપાધીના સ્ત્રાની સેલાવેલ કારિયોની (યોડીસ) કિલાલીઓની કરીએ ભારત સંભાવેલી.

કેમ્પ ચોજાયો : ૨૩૦ની તપાસ ince self inself રાકદાદેશ શરૂમાં મળામાં સંભાગ સભાવો માત્રહે. માત્ર્યા હતા મળે તેમને તમા મતાં રહેલ દર્વનાં લાવદેવી. આપી હતી. દવાની વેલે. પ્રકારની દવા મને પડ્ડી વામાં

મુક્ષની મહાલી કાર્ડ-રેસન **આસોપન : સ્થળ પર** પત્રમભગાડ લેટલીમા, છે. સીલા કેકેપન સહોતારી भने तेनन के अर्थने के हार हवा महत्व पूरी पडाश के क्वीत महत्वार्थी भने के anni ana ani an Aframandia di An da dil mi મામ લાક લીકા મના નામાન આવાને સત્ત પર જ તમામ સ્વયાના અસ્ટરેમાં મને પણ દરામાં માળું હતું. જેમાં ૨૩૦ દરામી કાઈનોકન હસકરી વરવામાં ક્યુરી યોધિકાઇકન્દર

Septis. 30 SL276 7 SS farmers



पुर क क्ष | कोरा को बो बो साम | प्रारोधको प्रयोग सुरक्ष ext. a levini di diana pi plani di sipirali di di chiesa in qui su di considera di da chie cini cu e tri cu vi il di chiesa qui alle di considera di su monalitati, il qui tota i su monalitati, il qui tota i considera qui alle di considera di considera anni di considera di poste a marti, il cu si ri qui una la considera di poste a marti, il cu si ri qui una la considera di poste a marti, il cu si ri qui una la considera di su una ciù cu anni coli disconsidera il vi una con si cutta di considera di si vi una con si cutta di considera di si cutta di con si coli chiesa di si cutta di considera di si cutta di considera di si cutta di si cutta di considera di si cutta public water steel the same beliefund was det up were સમ્ હું માં મોર્પ મુખ્ય છે. કાર માંખ દાર માં પ્રાથમિક પ્રાથમિક તુઓ પ્રયાદિક અંતર્જની ત્યારાતમાં માટે માં પર કરે મોર્ટ મિક્ટિક કર્યાલ્ય કરાઈ હતી. તેમ માંદિર દેશના દાર્થક હતી. કર્યા

#### Media Coverage

#### સુથરી ગામે નિઃશુલ્ક મેડીકલ કેમ્પમાં ૨૦૨ દર્દીઓએ લાબ લીધો

અદાણી ફાઉન્ડેશન તથા ગુજારત અદાણી ઈન્સ્ટિ. ઓફ મેડીકલ સાયન્સીસ દારા યોજાયો કેમ્પ

તથા ગુજરાત અદાવી ઈનિસ્ટયુટ ઑફ મેડીકલ સાયન્લીસ દારા વાન ૧૯૧૬ કાલ્પવાન તેને પ્રાથમ (૧૯૧૬ કાલ્પવાન તેને વિદ્યાર્થ (૧૯૧૬ વર્ષ) ના ગીતીને, છે. દાનુ પહેલ પ્રયાન તેમ અન્ય આવેલ ત્રામાર્થ ભાગતા ત્રામાં (૧૯૧૯ નો લીક્સ), છે. ત્રામાન લેક્સ માને લેક્સ ત્રામાર્થ ભાગતા ત્રામાં (૧૯૧૯ નો લીક્સ), છે. ત્રામાન લેક્સ પ્રયોગ કાર્યો સ્થાન ત્રામાર્થ ભાગતા લેક્સ ત્રામાં ભાગતા લેક્સ ત્રામાં ભાગતા લેક્સ તર્મ માં ભાગ દર દર્શિયાર્થ (સ્માર્થ્ય) સ્થાન તર્મ સ્થા

હતું. આ કેમ્પમાં ૨૦૨ કડીઓએ. (ઓણોમ્ટ્રીસ્ટ) તથા એન સી. ઉ. કિશોરબાઈ ચાલા તેમજ સ્ટાર લાભ લીપો હતો. આ પૈયરોત : શિલીકમોથી તો. રાજેલ બરેટ મહેશબાઈ બાયોદસ,વનીતામેન એન સી.ડી. કલિબીક શસ્ટ ૮૦ (ચેલેલ ઓફીસર્ટ) ફારાદડીઓને દબારીયા તથા એન સી.ડી. લોકોના જ્લા: પેશર તથા ત્રાપાસવામાં આવ્યા હતા તેવજ સેલમાંથી વિપુલનાઈ દેવમોરડી, ગ્રાથભીટીસનું ચેકઅપ કરવામાં યોગ્ય નિદાન અને સારવાર ગોળવેનભાઈ ચોપરીએ જહેમન

આવ્યું હતું.આ કેમ્પમાં દો. કરવામાં આવી હતી.આ કેમ્પને ઉદ્યવી હતી.

#### અબડાસાના સુથરીમાં વિનામૂલ્યે નિદાન તથા સારવાર કેમ્પ યોજાયો

સુથરી ગામે

ચકાસાયા

નિ:શલ્ક મેડિકલ

કેમ્પમાં 202 દર્દી

ભારકર ન્યૂઝ. ભુજ

અદાશી ફાઉન્ડેશન તથા ગુજરાત

અદાણી ઇન્સ્ટિટ્યુટ ઓફ મેડિકલ

સાયન્સીસ દ્વારા સુથરી હાઇસ્કૂલના

ભૂતપૂર્વ વિદ્યાર્થી વિકાસ મંડળના

સહયોગથી અબડાસા તાલુકાના

સુથરી ગામે નિઃશુલ્ક મેડિકલ હેલ્થ

કેમ્પને આયોજને કરવામાં આવ્યં

હતં. જેમાં 202 દર્દીની ચકાસણી થઇ

હતી. 87 લોકોના બ્લડપ્રેસર તથા

ડાયાબિટીસનું ચેક-અપ કરાયું હતું.

આ કેમ્પમાં ડો. એસ.એસ. ત્રિપાઠી,

ડો. રાહુલ પટેલ, ડો. નિયંતાબેન

ભાદરકાં, હાર્દિકભાઇ મહેતા

તથા એન.સી.ડી. ક્લિનિકમાંથી

ડો. રાજેશ ખરેટ દ્વારા દર્દીઓને

તપાસવામાં આવ્યા હતા.

૨૦૦ દર્દીઓએ આરોગ્ય કેમ્પનો લાભ લીધો

જુજ, નદરજ અદાવા કાઉન્ડેશનના આરાગ્ય પ્રાજક્ટ અદાવા કાઉન્ડેશન તથા ગુજરાત ઓફિસર કિશાર ચાવદા, સ્ટાકના આદાવા ઈન્સ્ટિટ્યુટ ઓક મેડિકલ પ્રહેશ બાપોદરા વનિક્રાબેન દબાસિયા. હાઈસ્કૂલના ભૂતપૂર્વ વિદ્યાર્થી મંડળના સહયોગથી અબદાસા તાલુકાના સુવરી ગામે

નાયોજન કરવામાં આવ્યું કેમ્પનો સુઘરી તેમજ બાસપાસના ગામડાઓના ૨૦૦ દર્દીઓએ લાગ લીધો

વિનામુલ્લે આરોગ્ય કેમ્પન્

હતાં. ઉપરાંત એન.સી.ડી. ક્લિનિક એન.સી.ડી. સેલના વિપૃત્ર દેવમુરારિ. દારા ૮૭ લોકોના ધ્લા પ્રેશર તથા ગોલધન સોધરી ઉપસ્થિત રહ્યા હત ડાયાબિટીસનું ચેકઅપ કરવામાં આવ્યું કેમ્પમાં ઉપસ્થિત મહેમાનોએ વિદ્યાર્થી હતું. કેમ્પમાં કો. એસ.કે. ત્રિપાઠી, કો. મંડળ કારા કરવામાં આવતી પ્રવૃત્તિને રાહુલ પટેલ. દો. નિયંત્રાબેન ભાદરક્ષ, બિસ્ટલી હતી. સુરેશ કુબાવત, સ્થાનિક હાર્દિક મહેતા, એન.સી.ડી. ક્લિનિકના દો. રાજેશ ખરેટે દર્દીઓની તપાસથી ભૂતપૂર્વ વિદ્યાર્થી મંત્ર્યે આયોજનો કરી સારવાર આપી હતી. આ તકે સફળ બનાવવા જહેમત ઉઠાવી હતી.

#### ટુંડા અને વાંઢમાં છ દિવસીય નિઃશુલ્ક મેડિકલ કેમ્પ યોજાયો

અદાણી ફાઉન્ડેશન તથા ગુજરાત અદાણી ઈન્સ્ટિટચૂટ ઓફ મેડિકલ સાયન્સિસના સંયુક્ત ઉપક્રમે મુન્દ્રા તાલુકાના ટુંડા અને વાંઢમાં પ્રાથમિક શાળા ખાતે છ દિવસીય વિનામૃલ્યે મેડિકલ ચેકઅપ કેમ્પનું આયોજન કરાયું હતું. જેનો ૨૦૫ દર્દીઓએ લાભ લીધો હતો. કેમ્પમાં તબીબો ડેનિશ રોજીવાડિયા, ડી.બી. દવે, દેવેન જોગલ, રાજેશ ખરેટ, દેવેન ગોસ્વામી, કૃતિકા ઉપાધ્યાય, ગરવિના ગામિત દ્વારા દર્દીઓની તપાસણી તથા સારવાર કરાઈ હતી. કેમ્પમાં સી.બી.સી., આર.બી.એસ., એલ.એફ.ટી. જેવા લેબના ટેસ્ટ અને યુરીનના ટેસ્ટ તથા ઈ.સી.જી. કરાયા હતા, જેમાં ઉત્સવ દવે, ચંદ્રિકાબેન પંચાલ, સુરેન્દ્ર બીલુનિયાએ સેવા આપી હતી. અદાણી ફાઉન્ડેશનના આરોગ્ય પ્રોજેક્ટ ઓફિસર કિશોર ચાવડા, મનહર ચાવડા તેમજ સ્ટાફગણ અંકિત પટેલ, યુવરાજસિંહ જારેજા મહેશ બાપોદરા વનિતાબેન દબાસિયા, અંજનાબેન આહિર તથા લાખાભાઈ રબારી વગેરે જહેમત ઉઠાવી હતી.

adani

#### Media Coverage



ભુજની શાળાઓમાં અદાવી કાઉન્ડેશન દ્વારા યોજાયેલા આરોગ્ય

#### ભુજની છ શાળાના ૧૩૧૧ છાત્રની આરોગ્ય તપાસણી કેમ્પોમાં કરાઇ

वारीनांशन दांश से व सार्शन પ્રોજે કટ અંતર્ગત આ મહિના કાઉન્ડેશન તરફથી કરવામાં દરમિયાન ભુજ શહેરની અલગ આવી હતી. આ ક્રમ્પો દરમ્યાન અલગ ૬ સરકારીશાળાઓ.

પ્રા. શાળા. દાવલવાડી રીલાકેશન **ફાઉન્ડેશન દ્વારા આચોજન** વાંચાઇ. ਲੇਤ ચાઇલ્ડ ਰળે અદાણી

પા.શાળા સંજોગનગર પા.શાળા अने पाटवारी प्रा. शाणाओं मां આરોગ્ય તપાસલી કાર્યક્રમો યોજાયા હતા. આ કેમ્પોનો મુખ્ય હેતુ બાળકોમાં તંદુરસ્તી જળવાઈ રહેં અને ખાસું કોઈ મોટી બિમારીના ભોગન બને તે હતો. આ કેમ્પો દરમિયાન વધુ સારવાર અને નિદાનની જરૂરીયાત હોય तेवा विधाधीओने गेएमा, छ. डे. ४न२७ सोस्पिटलमां रीटर

સંપર્ભ સારવાર અદાવી કુલ ૧૩૧૧ વિદ્યાર્થીઓ એ

પ્રાંશાળા, વાણીયાવાડ પ્રાશાળા,ભીડ ગેટ આંખ, દાંત અને પ્રાથમિક

આરોગ્યની તપાસ કરવામાં આવી હતી. પ્રાથમિ तड्लीक्वाणा ४३रीयातमह બાળકોને સ્કૂલમાં જ દવાઓ આપવામાં આવી હતી. અદાવી કાઉન્ડેશનન

આરોગ્યના પ્રોજેક્ટ ઓફિસર કિશોરભાઈ ચાવડા,તેમજ સ્ટાક મયુરભાઈ ગરવા, મહેશ બાપોદરા, વનિતા દબાસીયા, અંજના આહીર જહેમત ઉઠાવી હતી.

#### Saturday, August 06, 2016 Page No: 9 દેશ-પરદેશની આજકાલ

#### લુણીના માછીમાર બાળકોને સ્કોલરશીપ વિ એંદાણી ફાઉન્ડરોન ક્ષારા દ્યો. હથી ૧૨ના ૩૩ વિદ્યાર્થીઓને શિષ્યવૃત્તિના ચેક અપાયા

તાલકના હશી લ પ્રેમ જ તાલ siver anapaie अ्थनः सम्बद्धिः शत्रामां । ોકેજ કશાએ અભાર

હેશે. આ રાર્થકમમાં ભાવકોન વકીએ તઘ મકીમાં અગેવન વંજારીમાં, માદમભાઈ વંજારીય તથ અન્ય આવેલનો વર્ષો હાજ ત્રમાર મહિલસીપિકારલ કુઠ કરિલાઈએ નિવાઈએએ. અની હતી. આ સેવાસીખી માદીપાર સુદ્રદાના પાયકેલા. ક્ષ્મીર મોલીવાને લાણું હતુંકે, ઉદ્દાં હતા. માં દર્પોમને પ્રકા

વર અગગ અભાર મટે પ

nefs, hecs, sechine loose

લ્ટીયન મજનાનાંગ પ્રથ

તાંધમાં આવેલ કરવામાં આવું વાનિ છુલાદી માટેલેલાય પંદર રામનો વેકાશદિભુતના આપતો જાણદીનામાં ચારાને શીલાપોર્ટને આ લગામીય ઘડી માણીમાર બનાવવા માટે. ચંદાશી હાર વસ્ત્રીના ક્ષેત્રભાષી છે. અદલીકાન્દ્રિમ, મુજના ૧૫ વિરદાના જાણવું હતું કે, ક્ષે અમુદાઆ લગારે ઉચ અચ્ચાન ક્ષાન્દ્રામના વિષય મોતાઈ, આ કર્યામાં કચાકેલવાએ પ્રથમ વર્ષ તથા બીજા વર્ષમાં ચોકાબાઈ સારાંના હતા છેક પ્રથમિક દ્વારા અનિક માટે કોટાઈ રહ્યા છે. આ અગાં ઉપર ૧૫માર, રેઇ ગોધલ તો શ્રીલાહવામાં માટે ક્યારોને અભ્યાલ પ્રતાર વિદ્યાર્થિનો આવવામાં અને. સમુદ્રભાવભાગીક્ષણમાં આવ્ય આદિય પરિવિધિને પ્રતારે સદય સ્ટક્ર્ય તે મથ ૧૦૦ ટક્ક તથા મુલતેન ૧૦ ટક્ક એક્સાલિક એક્સો મળીને આ પ્રતીને એક એમ એ. વર્ષી રહ્યા કે આવ્યક સીધાના વાળા, આ બેસ્ટ એવા છે. હાઉને હવા ટક્કે વુધનાલી અમેટે કરવામાં આવ્યું કુલ રામ મેં લાગ છવાન હવાર સાહિસુલના આવાર્ષ અને પ્રમાણે એક એમ.લે.સાહિસુલનો પેસર સહયો ગામાલ મહાસી ના વૃદિદાભાઈ નવા સાહે જો તેના

શું. જે અંતર્યત પો. હવી ધરતાં, પોલકોની કોલદેશીય અપવામાં માથકિયા અદદાશિક છે છતા હવા માના મળતા વિજયી ગુલામ શાને અને આપર માન્યો હતો. ઉઠેલી હતી.

#### Media Coverage



# લીગમાં સલાચાની બિસ્મિલ્લાહ ટીમ વિજેતા

સમુદાય રમતબમતમાં આગળા મેય, શાનદાર પ્રદર્શન બદલ સ્કૂલના પ્રાધાનાચાર્ય અનોય વર્ષ તેવા હેતુસર અદાળી હનીક ઈશાક ભુસરમેન ઓક્ષ્ય શુકલા, જૂનસેવા સંસ્થા, કાઉન્દ્રેશન દારા મુંદરા તાલુકાનાં નાના કથાયાના શાંતિવન ક્રિકેટ **ળાળા કપાચામાં અદાણી** 

અને નવીનાળને ૯૮ રન સુધી ખેલાઊઓને અભિનંદન પાઠવ્યા સિવિ સીમિત રાખી હતી. હારુન હતા. અદાગી કાઉન્ડેશનના હતો.

મુંદરા, તા. ૨૮ : માછીમાર અલીમામદ સમેજા મેન ઓકધ આ ગોવાનો, અદાગી, પબ્લિક

લીધ કિંદ ટ્રન્નિન્દનું આયોજન કરાવ તેનું જે છે. તેનું અને કરાવ તેનું જ કર્યા તેનું અને કરાવ તેનું જ કર્યા તેનું અને કરાવ તેનું તેનું તેનું તેનું અને કરાવ તેનું તેનું તેનું અને કરાવ તેનું તે

વાઈસ પ્રેસિડેન્ટ મુકેશ સકલેનાએ

વગેરે ઉપસ્થિત રહ્યા હતા. વિજેતા ટીમને ઉપસ્થિત ગ્રાઉન્ડ ખાતે અદાળી પ્રીમિયર લીગ ક્રિકેટ ટ્રનમિન્ટનું આયોજન ફાઉ.**ા આચોજનમાં** વજેતા ટીમને ઉપસ્થિત સ્ક્રિક ટ્રનમિન્ટનું આયોજન

ક્યાના કરામ છતા ભુત્રસના હવાના શાખ આપા હતા. અંગ્રંગ્લનપા કરવા ભગ્નભ્ય જુ આપેલાનીમાં વિસ્તિકારા ખુટાના માત્રલતકાર કિલ્પ હતું. કોઈ-કોશના વિશ્લ ઈલેલન અલાક ભરીના નેતૃત્વ અપ્રદીએ આયોજના બિટાર્ગ્રૂ ગોલાઈ, ઉપર પરચાર, રાષ્ટ્ર તત્વેની કિંગ ઓક નવીનાળને હતું. માઈશાર આપેલાનો લગી બોયલ લાય સમય કીમે પ્લેમન ૧૩૧ રનનો લાયો આપ્યો હતો. સંખીધાના કાસનબાઈ લાગે હહાવી હતી તેમજ ઓર્શિન તથા સિવિલ વિભાગે સહયોગ આપ્યો

whication

અદાણી ફાઉન્ટેશન દ્વારા રોફ ચાઇલ્ડ પ્રોજેક્ટ અંતર્ગત વધુ સારવારની જરૂરીયાતવાળા બાળ દરીઓને જી.કે.માં રીફર કરાયા www.dowed.comprise.com

દેશ-પરદેશની આપ્રકાલ

લેક સાર્વાદ કોલેડર સંતર્વત પર હતી. આ કેમો દરમિયાન કહ પીના દર્શિયા જુદ શહેરી 13/1 વિપાર્ટિનેને લખકોપ વાર વાર દ્વારો કાર્યા, જેવા કુલ્ટેલ, ઉંચા, જે મેર્પ સ્ટ્રેક્સ્પ પ્ર. શવ, તરા અંત, ડાંડ અને પ્રાથમિ રવાની વિદેશન પ્રાપ્ય માંગની લાકા લખે અને પશ્ચિમ કરા, માં, માં તે, તો, તો, તો, કર્યા છે જો a na sissa na mbakamis pa r એ પ્રદેશી પ્ર. શામાં કે પામે સમામાં લઈ છી. માંત્ર તાલી લોકોનું માં તેમ લીક આંભારત્માનું હું જ કો. ભાર હોર્દિક

સુરતી જેવાઈ કરે અને પાક કો મોલિયાં લાયેલમાં રમાં મીલ ત્યા કરવું છ માં આવે માં દર્શન સુ કારવા અને નિશનન reference laube ર્વામાં કાર્યા કરવા કરવા છે. રેક પ્રવર્ષ માત્રા છે. જ

रेभी रेपूर्व सरधर बात

ા કાલ્યાન પ્રાપ્ત તે करत तेश विश्व पत વેજુત્તાનો મહારાષ્ટ્રો

Sunday, July 31, 2016

HE PHY ACT HOUR માં મહિલ ક્ષિરમાં बार तेशा राज शहरवाई લા, મોદ પરાંત, એક જારીય, મજન મહિલાં અ



માછીમારોને રિંગ થોવા અને લાઇક વડા મુકેસ સક્સેનાએ માછીમાર વિભાગના કાનકાભાઇ મહેથરી,

લેકેટનો ડેમાં કરી સમલવ આપી. ભાઇઓને દરિયાઇ માર્ગ તેમલ ચાલીયાર આગેવાનો તેમલ અદાવી.

હતી અને લાઇક જેકેટને કાવગ દિનારા પર કોઇ કોકાસ્પદ વ્યક્તિ કાઇનેકાનના સમ્પો હાજ રહ્યા હતા

દરિયામાં જતી વખતે સાથે રાખવા કે વસ્તુ નજરે પો., તો તે અંગે તેમજ કાર્યક્રમને સફળ બનાવવા

ભલાવલ કરી હતી, જેથી ઇમર્જની મંત્રીયત વિભાગને જાલ કરવાની સૌએ પૂરતો સલ્યોગ આપ્યો હતો.

# મુન્દ્રામાં માછીમારો દરિયાઈ સુરક્ષા અંગે માહિતગાર થયા

જૂના બંદર ખાતે માછીમારો માટે માર્ગદર્શક કાર્યક્રમ યોજાયો

(નલિયા) અને કોસ્ટગાર્ડ તેમજ મત્સ્યોદ્યોગ વિભાગ તથા અદાણી કાઉન્ડેશનના સહયોગથી માછીમાર ભાઈઓ માટે દરિયાઈ સુરક્ષા અંગે 📲 માર્ગદર્શન કાર્યક્રમ યોજાયો હતો.

એરફોર્સના વીંગ કમાન્ડન્ટ ડી.એસ. ગીલે એરફોર્સના વિવિધ હવાઈ સંસાધનોની કામગીરી અંગે માહિતી કે લાઈસન્સ. રજિસ્ટેશનની નકલ સભ્યો ઉપસ્થિત રહ્યા હતા.

મુન્દ્રા,તા.૧૮ વગેરે સાથે રાખવા જણાવ્યું હતું. મુકેશ મન્દ્રામાં જના બંદર પર માછીમાર સક્સેનાએ માછીમાર ભાઈઓને વસાહતના ટ્રેનિંગ સેન્ટર ખાતે એરકોર્સ દરિયાઈ માર્ગે કે કિનારા પર કોઈ



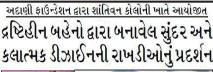
આપી હતી. ઉપરાંત માછીમારોને હવાઈ શંકાસ્પદ વ્યક્તિ કે વસ્તુ નજરે પડે તો તે ખતરાથી અવગત કરાવી તે અંગે જે.તે અંગે સંબંધિત વિભાગને જાણ કરવાશીખ સરક્ષા વિભાગને જાણ કરવા અપીલ આપી હતી. એરકોર્સના નીરજકમાર. કરી હતી. કોસ્ટગાર્ડના પ્રદીપકુમારે કોસ્ટગાર્ડના આલોકકુમાર તથા ચેતન માછીમારોને રીંગ બોયા અને લાઈક પ્રકાશ, મત્સ્યોદ્યોગ વિભાગના કાનજી જેકેટનો ડેમો કરી જરૂરી આધારો જેવા મહેશ્વરી અને અદાણી ફાઉન્ડેશનના



Mon, 19 September 2016 **21821** epaper.sandesh.com//c/13348680

#### Media Coverage







#### પ્રતિભાઓને પ્રોત્સાહીત કરવા મુન્દ્રા તેમજ આજબાજની ૪નતા પણ બહોળી સંખ્યામાં જોડાય તેવી સંસ્થાની લાગણી છે

મુન્દ્રાઃ દ્રષ્ટિહિન વ્યક્તિના જીવનના કેળવણી દ્વારા જ્ઞાન અને આશાના અજવાળા પાથરી અને તેઓ ક્ષમાર્જેના એક જવાબદાર નાગરીક તરીકે કામ કરી શકે તે હેતુથી મેમનગર, અમદાવાદ સ્થિત અંધ કન્યા પ્રકાશગૃહ ટ્રસ્ટ છેલ્લા ૬૦ વર્ષથી કાર્યરત છે. વર્તમાન સમયમાં લગભગ ૨૦૦ જેટલી દ્રષ્ટિહીન બાળાઓને વિવિધ જીવન ઉપયોગી તાલીમ આપવામાં આવે છે. આ તાલીમમાંથી શીખી અને તેમાંથી પ્રેરાઈ તેઓ અકલ્પનીય બનાવટો બનાવે છે.આ વર્ષે રક્ષાબંધનના અવસરે આ સંસ્થા દ્વારા સુંદર અને ક્લાત્મક રાખડીઓ બનાવવામાં આવી છે. આ કલાને પ્રોત્સાહીત કરવા અને પ્રતિભાઓની કંદર કરવા અદાણી ફાઉન્ડેશને આ સંસ્થાને મુન્દ્રામાં આમંત્રિત કરી અને અદાણીના કર્મચારીઓ, પરિવારજનો તેમજ મુન્દ્રા તથા આજબાજની જનતાને લાભ મળે તે માટે કંપની તેમજ કોલોનીમાં પ્રદર્શનનું આયોજન કર્યું છે. જેમ આ બાળાઓ પ્રત્યક્ષ રાખડીઓ બનાવે છે અને ઈચ્છક વ્યક્તિ તે રાખડી નજીવા ભાવે ખરીદી શકે છે.

તા. ૧૨ ઓગષ્ટના રોજ અદાશી શાંતિવન કોલોની ખાતે બપોરે 3 થી દ વાગ્યા સધી આ પ્રદર્શનનં આયોજન કરેલ છે જેમાં કર્મચારી, પરિવારજનો ઉપરાંત મુન્દ્રા તેમજ આજુબાજુની જનતા પણ બહોર્ળી સંખ્યામાં જોડાય તેવી સંસ્થાની લાગણી છે.

#### Media Coverage

#### મુસ્લિમ હાઈસ્કૂલમાં આરોગ્ય જાગૃતિ કાર્યક્રમ યોજાયું



ભજના સહયોગથી ભજની ધી મોબીલાઈઝર મસ્લિમ એજપકેશન એન્ડ કાઉન્ડેશનને આવકાર્યા હતા. વેલકેર સોસાયટી સંચાલિત અદાણી કાઉન્ડેશનની ટીમ ઉચ્ચત્તર માધ્યમિક શાળામાં ' દ્વારા 'આરોગ્ય જાગૃતિ' માટે કઈ આરોગ્ય જાગૃતિ' કાર્યક્રમ તકેદારી લેવી જોઈએ એ અંગે યોજાયું હતું. કાર્યક્રમની PPT દ્વારા નિદર્શન કર્યું હતું. કે.એચ.ડાભી મેડિકલ ઓફિસ૨ હતું.

અદાણી કાઉન્ડેશન, જનરલ હોસ્પિટલ, ગરવા જી.કે.જનરલ હોસ્પિટલ મયુર, મેમણ આરીક કોમ્યુનીટી શરૂઆતમાં શાળાના આચાર્ય કાર્યક્રમનું સંચાલન શાળાના જસબખાન આઈ. ટાંકે ડો. મ.શિ. સરકી મસ્તકાએ કર્ય

#### અદાણી દ્વારા ભુજની શાળાઓમાં આરોગ્ય કેમ્પ



અદાણી કાઉન્ડેશન તથા ગેઈમ્સ દ્વારા સેક ચાઈલ્ડ પ્રોજેક્ટ અંતર્ગત ભુજ શહેરની અલગ અલગ સરકારી શાળાઓ ભીમરાવ નગર શાળા, હાચીસ્થાન પ્રા. શાળા, હાથીસ્થાન કન્યા પ્રા. શાળા, શિવનગર પ્રા. શાળા, જદરા પા. શાળા, આઝાદ નગર શાળાઓમાં આરોગ્ય તપાસણી કાર્યક્રમનું આયોજન લીધો જેમાં બ્લડ ગ્રૂપ ટેસ્ટ, કરવામાં આવ્યું હતું.

આ કેમ્પનો મુખ્ય હેત બાળકોમાં તંદરસ્તી જળ વાઈ રહે અને ખાસ કોઈ મોટી બિમારીના ભોગન બને તેમની તપાસણી કરવામાં આવી હતી. આ ઉપરાંત આ કેમ્પો દરમ્યાન

વધ સારવાર અને નિદાનની જરૂરીયાત લાગી વિદ્યાર્થીઓને અદ્યાણી જી.કે.જનરલ હોસ્પિટલમાં રીકર કરવામાં આવ્યા હતા. હોસ્પિટલમાં બાળકોની સંપર્ણ સારવાર અદાણી કાઉન્ડેશન તરકથી કરવામાં આવી છે.

આ કેમ્પો દરમ્યાન કુલ ૧૩૧૦ વિદ્યાર્થીઓએ લાભ ઊંચાઈ, વજન તથા આંખ, દાંત અને પ્રાથમિક આરોગ્યની તપાસ કરવામાં આવી હતી તથા પ્રાથમિક તકલીકવાળા જરૂરીયાનમંદ બાળકોને સ્કુલમાં જ દવાઓ આપવામાં આવી હતી.

#### Media Coverage



ના વિક્રોલ મામ્યાદાન મા કહેવા દાવિષ્ય (લાપોરાદી) વર્લીયાર્ટ ફોટના પ્રસાનની તેમ કોને હોયી કાર્યાલ માર્ચ લાકોનાસાર્થી માર્ચા બાલી કોર્યાલ હોઇ કોર્યા non ign alle U gine flame flame adell'and all i unes alle mas di villy audichien as que una, que gine unadplantes anne adellèsienes એપ્રાલકિલ ભાગમાં કહેલ કર્યા હાલી કર્યું હોય એક પર એમલાક ડિફાઇલ કરવા લાગ્ય પણ કૃષ્ટિક ફોલાવર્ડ વર્ષ કર્યા કર્યા પાર્ટમાં મહેલા જેવાં હોત મારે દો નહીદ મારે હાલે કર્યું હોય કર્યા હોય કરવા કરવા કરતા કરતા કરતા કરતા કરતા કરતા મ મહોલ કરવાં મહેલું કેટલેએટરે હો પ્લેમ્બર્સ કરોવા ફોનમાં છું. પેલ્સક્રિકારિકારોક લીધ પ્રવાસ કાર્યો હોતા. માં કરીઈ કિંદર મોં કિંમોલોકોર્સ હો

Thursday, October 06, 2016 विविध संस्थाओं साथे डराष्ट्र गोविं नवनी મેળું હતું દુ. માંગલ જેવા હેલા હતા. લાગલન ભેગલન માળવ લાગ લાગ લાગ પ્રચાન થયો લાગ — ભરિષ્યમાં મેળિયા પાંચલન ત્યાર્થ મુખ્યત્વ ભિને દુ. છા. લાગ્યલનાં પ્રથમિત ન વચ્ચાલનું હતું. માગશ હતી સાહેદાત કરાયત ત્યાર્થ મુખ્યત્વન ભાગતાં માંગ કર્યો કર્યા કરાયતાં માંગ કર્યા માંગ માળવા માંગી હતી સાહેદાત કરાયત

### ા 'બેટી વધાવો' વિષય પર સેમીનારનું આચોજન



તાલુકા તેલ્લ હતી. ઇ પ ર ા ન અદાસી કાઇન્ટેશનના પાતાને રૂા. ૫૦૦૦/ ના ઓકીસ-પુદરા, અદારાધિ આ કાર્યક્રમમાં જિલ્લા તીરાઇદીનખાનસાહે એ પક્તિએને દીકરીને વધાવો પંચવર્યીય એન્ય આપવામાં ત્રારા કુટર, આતાર કે અને પાયલ કિલ્લ લીકીના અહવિંદન પારના હતા. અને પાયો રુલા મુધ્યે આવ્યા હતા વર્ષ ૧૪ અ.ઈ.લી રોલના લડ્ડાન વેરોનલીકાયમેન સાલીને તાલુક હેલા સોકિસર હતે અને દેવામેન નામીએ મીટીમોને માણી લઇનોલન ઇપ્પોનુદા મ્યેનદીન ૩૦ કાર્યમને વિરાદલ જાલાનું હો,માલકાહેનેદીકી વચાર્ય પુદાર તાલુકામાં મદાશી. તરાથી હેલ કંદ અપમામ સપ્ટેમ્બર ૨૦૧૮ના રોજ ભેરી હતું કે દિકરીને અભાગ ન સંગીનારનું પ્રેક્ષ્ટરાન કરી ફાઇલેશન દ્વારા ચાલતા ભેરી આવી હતી. આ કાર્યક્રમમાં હેલ્પમાં દારા જેના સાથે કહ્યું કે કિરાન અગળ ન વેશાનાનું પ્રજનાન કરી. સારા મહતા ધાલા લક્ષ્ય થયાં નહીં આ કાર્યમા ત્યાં અને માને દર વસ્તું કરિયો અગમાં છે, ક્યુંકાના આંત્રહાલા અનુંકો ન લેવાની કાર્યમાની ફરવેલા કરાઈ હોતી. કોર્યમનું સંધાન આવું હતું આ કાર્યમાની કિરીનો એ કહ્યાં મુશ્યોના કંપાયું પ્રચાન આપી હતી તેને આવશે રહેલતી. કાર્યમનું સંધાન આવું હતું આ કાર્યમાની કિરીનો એ કહ્યાં મુશ્યોના કંપાયું માને કાર્યો કહ્યાં તેના હોતા માને કર્યા સ્થાન કરી સામે કરિયો કરિયો કર્યા કર્યા હતા કર્યા કર્યા કર્યા કરિયો કરિયો કરિયો કરતાએએ કરિયો દ્વાર્થનો અને કરિયો કર્યા કર્યા કરિયો કરિયો કરિયો કરિયો કરિયો કર્યા કરિયો કર

# મુન્દ્રામાં અદાણી દ્વારા બેટી

તાલુકા હેલ્થ ઓફિસ-મુન્દ્રા, અદાણી પ્રેઝન્ટેશન કરી ભૂણ હત્યા અટકાવવા



પાઠવ્યા હતા. તાલુકા હેલ્થ ઓફિસર આવી હતી.



શિક્ષણ સમિતિના ચેરમેન છાયાબેન ડી.પી.ઓ. જસવંતીબેને દીકરી તુલસીનો ગઢવીએ કાર્યક્રમને બિરદાવતા જણાવ્યું ક્યારો કહી બિરદાવી હતી. અદાણી હતું કે, દીકરીને અબળા ન સમજો, ફાઉન્ડેશનના પંક્તિબેને દીકરીને વધાવો દીકરી સબળા છે, દીકરી માતા-પિતાના અને પઢાવો પર ભાર મુકયો હતો રાકરા તરાળા છે, દાકરા નાતા-ાપતાના અને પહોરા પર ભાર મુક્યા હતા વહાલનો દરિયો છે. બલાહુમારીના આ પ્રત્યેગે બે દીકરીની બે મતાને રે. સુશીલાબેને દીકરી રૂપ્તે સમાજની મૂડી ૫૦૦૦ ના પંચવણીય બોન્ડ આપવામાં કહી બિરદાવી હતી. મુન્દ્રાના મૌલાના આવ્યા હતા તથા ૧૪ બેટીઓને અદાણી ઈમરાન સીરાઉદીન ખાને આશીર્વચન ફાઉન્ડેશન તરફથી હેલ્થ કિટ આપવામાં