BEFORE THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE CHENNAI

Memorandum of Appeal

(Under Section 18 (1) read with Section 16 of National Green Tribunal Act, 2010)

Appeal No. 68 of 2021

BETWEEN:

M/s Sri Mahalakshmi Hatcheries
Represented by its Proprietor
Mr. D. Sagar Reddy and anr. ... Appellants

VS.

State Environment Impact Assessment Authority (SEIAA)
Rep. by its Chairman & 2 ors. ... Respondents

ADDITIONAL TYPEDSET OF DOCUMENTS

Sl. No.	DATE	PARTICULARS	PAGE No.
1.		Status of proposal vide proposal no. IA/AP/IND2/72386/2018	1
2.		Amendment of TOR	2
3.		Standard Terms of Reference	3 – 9
4.	10.06.2008	Environmental Clearance issued in favour of 3rd Respondent's Unit-1 located at Nalgonda District, Andhra Pradesh	10 – 14
5.	10.06.2008	Monitoring Report issued by MOEFCC for 3rd Respondent's Unit-1 located at Nalgonda District, Andhra Pradesh	15 – 27
6.	07.07.2010	Article published by The Hindu under the heading *"Sea is turning into a dump yard"*	28 – 29
7.	25.07.2013	Order vide G.O. M.S. No. 64 passed by Government of Andhra Pradesh	30 – 33
8.	19.11.2014	Article published by The Royal Society under the heading *"Sources, impacts and trends of Pharmaceuticals in the marine and coastal environment"*	34 – 53

9.	31.05.2015	TOR issued by MOEFCC to the 3rd Respondent	54 – 59
10.	23.02.2016	Article published by The Hindu under the heading *"Villagers Demand Halt to Divis Expansion"*	60
11.	25.01.2018	Application for Environmental Clearance by 3rd Respondent vide proposal No.IA/AP/IND2/72386/2018	61 – 71
12.	21.03.2018	Requisition of 3rd Respondent for change of Address in TOR to Additional Director, MOEFCC	72
13.	21.03.2018	Requisition 3rd Respondent for amendment of TOR to Additional Director, MOEFCC	73
14.	18.04.2019	Requisition of Sanozen Pharma Private Limited for TOR to the Director, MOEFCC	74 – 79
15.	21.03.2020	Inspection Report filed by Senior Environmental Engineer, Zonal Office, Visakhapatnam to the Joint Chief Environmental Engineer, A.P. Pollution Control Board	80 – 120
16.	16.05.2020	Requisition of 3rd Respondent to consider the project under "B2" category in obtaining Environmental Clearance	121
17.	10.06.2020	Order passed in O.A. No. 80/2020(sz) by the Hon'ble NGT, Southern Zone, Chennai	122 – 129
18.	11.07.2020	Report Submitted by Joint Chief Environmental Engineer, A.P. Pollution Control Board to Member Secretary, A.P. Pollution Control Board	130 – 136
19.	29.09.2020	Verification report filed by Environmental Engineer, A.P. Pollution Control Board to Member Secretary, A.P. Pollution Control Board	137 – 141

20.	28.10.2020	Consent for Establishment (NOC) Order for Coastal Discharge	142 – 145
21.	04.12.2020	Inspection Report of MPEDA, Government of India on Divis Lab site at Kota	146 – 153
22.	23.12.2020	Online Article published by Medical Dialogues under the heading *"Setback- AP Govt Asks Divis Labs to Halt Construction of New Facility Near Kakinada"*	154 – 155
23.	13.07.2021	Letter sent by Commissioner of Fisheries vide Letter No. 4377/P1/2017 to the Special Chief Secretary to Govt., AH DD and Fisheries Department, AP Secretariat	156 - 157

Dated at Chennai on this the 11th day of October, 2022.

COUNSEL FOR APPELLANT

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Current Status of Proposal

Back (searchproposal.aspx)

(Proposals received on or after 4th July 2014)

Help

Click on for viewing the Current Status of Proposal

Enter text for Search : 72386/2018

Search

Sno.	Proposal No.	MOEFCC File No.	Project Name	Company	Proposal Status	View
1	IA/AP/IND2/72386/2018	**IA-J-11011/34/2018-IA-II(I)**	**M/s Divi's Laboratories Limited, Krishnapatnam Industrial Area**	**DIVIS LABORATORIES LIMITED**	TOR GRANTED	
2	IA/AP/IND2/72386/2018	**IA-J-11011/34/2018-IA-II(I)**	**M/s Divi's Laboratories Limited, Krishnapatnam Industrial Area**	**DIVIS LABORATORIES LIMITED**	Delisted(Amendement)	

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For any Technical support, Please Contact EFCCID, NIC, New Delhi, monitoring-fc(at)nic(dot)in

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APPENDIX I

(See Paragraph-6)

Note: If space provided against any parameter is inadequate,Kindly upload supporting document under 'Additional Attachments if any' at the last part of the Form1. Please note that all such Annexures must be part of single pdf document.

(I)Basic Informations

S.NO	ItemDetails	
1.	**Modification Category**	: Amendement
2.	**Name of the Project**	: M/s Divi's Laboratories Limited, Krishnapatnam Industrial Area
3.	**Project Sector**	: Industrial Projects - 2
4.	**Location of the Project**	: Andhra Pradesh
5.	**Proposal No.**	: IA/AP/IND2/72386/2018
6.	**File Number**	: IA-J-11011/34/2018-IA-II(I)
7.	**Previous TOR Letter**	: Annexure-Uploaded Previous TOR letter
8.	**Date of Previous TOR**	: 19 Mar 2018
9.	**Reason for applying for Extension of Validity**	: As per Specific TOR Point 5 "Detailed Effluent treatment Scheme including segregation streams for units adopting zero liquid discharge" is mentioned. but in our proposal we have requested for discharge of treated wastewater meeting sea discharge limits to be discharged into sea through a dedicated marine outfall.
10.	**Attach Document(if any)**	: N/A
11.	**Covering letter**	: Annexure-Uploaded Covering Letter
12.	**Amendment is required**	: We request the ministry to be the needful in allowing us to discharge the treated effluent after meeting sea discharges standards into the sea through marine outfall. And Correction in address.
13.	**Updated Form1**	: N/A

5(f):STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR SYNTHETIC ORGANIC CHEMICALS INDUSTRY (DYES & DYE INTERMEDIATES; BULK DRUGS AND INTERMEDIATES EXCLUDING DRUG FORMULATIONS; SYNTHETIC RUBBERS; BASIC ORGANIC CHEMICALS, OTHER SYNTHETIC ORGANIC CHEMICALS AND CHEMICAL INTERMEDIATES) AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

A. STANDARD TERMS OF REFERENCE

1) Executive Summary

2) Introduction

i. Details of the EIA Consultant including NABET accreditation
ii. Information about the project proponent
iii. Importance and benefits of the project

3) Project Description

i. Cost of project and time of completion.
ii. Products with capacities for the proposed project.
iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
iv. List of raw materials required and their source along with mode of transportation.
v. Other chemicals and materials required with quantities and storage capacities
vi. Details of Emission, effluents, hazardous waste generation and their management.
vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided
ix. Hazard identification and details of proposed safety systems.
x. Expansion/modernization proposals:

c. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing lexisting operation of the project from SPCB shall be attached with the EIA-EMP report.

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d. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4) Site Details

i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)

iii. Details w.r.t. option analysis for selection of site

iv. Co-ordinates (lat-long) of all four corners of the site.

v. Google map-Earth downloaded of the project site.

vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.

vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.

viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)

ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area

x. Geological features and Geo-hydrological status of the study area shall be included.

xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)

xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.

xiii. R&R details in respect of land in line with state Government policy.

5) Forest and wildlife related issues (if applicable):

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)

ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha)

iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.

iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon.

v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.

vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6) Environmental Status

i. Determination of atmospheric inversion level at the project site and site-specific micrometeorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio-economic status of the study area.

7) Impact and Environment Management Plan

i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality modelling - in case of discharge in water body

iii. Impact of the transport of the raw materials and end products on the surrounding environment hall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyorcum-rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control

vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc.

shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post-project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8) Occupational health

i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,

iv. Annual report of heath status of workers with special reference to Occupational Health and Safety.

9) Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.

ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.

iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10) Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

11) Enterprise Social Commitment (ESC)

Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13) A tabular chart with index for point wise compliance of above TOR.

B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR SYNTHETIC ORGANIC CHEMICALS INDUSTRY (DYES & DYE INTERMEDIATES; BULK DRUGS AND INTERMEDIATES EXCLUDING DRUG FORMULATIONS; SYNTHETIC RUBBERS; BASIC ORGANIC CHEMICALS, OTHER SYNTHETIC ORGANIC CHEMICALS AND CHEMICAL INTERMEDIATES)

1. Detailsonsolvents to be used,measuresfor solventrecovery and for emissions control.
2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, otherprocess-specificpollutants* like NH3*, chlorine*, HCl*, HBr*, H2S*, HF*,etc.,(*-asapplicable)
4. Work zone monitoring arrangements for hazardous chemicals.
5. Detailed effluent treatment scheme including ssegregation of effluent streams for units adopting 'Zero' liquid discharge.
6. Action plan for odour control to be submitted.
7. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.

8. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
9. Action plan for utilization of MEE/dryers salts.
10. Material Safety Data Sheet for all the Chemicals are being used/will be used.
11. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
12. Details of incinerator if to be installed.
13. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
14. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.

700/AP

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भारत सरकार
पर्यावरण एवं वन मंत्रालय
Government of India
Ministry of Environment & Forests
(IA Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail: plahujarai@yahoo.com
Telefax: 011: 2436 3973

F. No. J-11011/1159/2007-IA-II(I)

Dated : June 10, 2008

To,

The General Manager
M/s Divi's Laboratories Ltd. Unit-1
Lingojigudem (V), Choutuppal (M)
Nalgonda District,
Andhra Pradesh – 508 252

Subject : Expansion of Bulk drug unit (Change in Product Mix) at Mandal Choutuppal, District Nalgonda, Andhra Pradesh by M/s Divi's Laboratories Ltd, Unit-1 – Environmental Clearance regd.

Sir,

This has reference to your letter no. nil dated 27.10.2007 along with application in Form – 1, pre-feasibility report and subsequent communication dated 11th February, 2008 seeking environmental clearance for the above project under the Environment Impact Assessment Notification, 2006.

2.0 The Ministry of Environment and Forests has examined the proposal for expansion of Bulk drug unit along with the change in the product mix in the existing plant premises by M/s Divi's Laboratories Limited, Unit -1 in District Nalgonda in Andhra Pradesh. The expansion will be carried out in the existing plant premises for which an area of 500 acres has been acquired. It is noted that presently the unit is manufacturing 16 products with production capacity of 497.5 MTPA. It is proposed to manufacture 60 products with production capacity of 2235.67 MTPA. At any time a maximum of 16 products out of 60 proposed products will be manufactured of which 6 are dedicated and 10 on campaign basis. A list of products along with the production capacity to be manufactured are given at annexure.

3.0. It is noted that water requirement will be 1200 m3/d of which 480 m3/d will be met from the ground water source as makeup water and 720 from the treated waste water. Permission for drawal of ground water has been obtained on 02.02.2005 from the State Government authority. About 1080 m3/d of effluent will be generated. The low TDS and domestic effluent will be treated in ETP and RO. The treated waste water will be used for green belt development. High TDS wastewater will be evaporated in multi-effect evaporators (MEE) and condensate will be reused for cooling purpose etc. The rejects from RO Plant will be treated in MEE and salts will be sent to TSDF. Cyclones, dust collectors and bag filters will be provided to control particulate emissions. Process emissions in the form of HCl, NH_3 and SO_2 will be scrubbed with scrubber. Vent condensers will be provided to solvent storage tanks to trap the vapours. Incinerator is provided with scrubber and stack of 40 m for proper dispersion of emissions. It is proposed to install 16 TPH FBC Boiler.

23/6/08
Director (S-I)

4.0. The Semi solid waste generated will be incinerated in incinerator and incinerator ash will be disposed off in TSDF. Residual wastes from process or utilities will be either sent to SLF or incinerated. Spent solvents will be recovered. Process residues and distillation bottom residue will be sent to incinerator. Spent carbon, forced evaporation salts, ETP sludge, incineration ash will be sent to TSDF. Sewage and ETP sludge will be sent to TSDF at Dundigal. All the hazardous materials will be incinerated or sent to secured land fill for disposal. Coal ash will be provided to brick manufacturers. Spent solvent will be recovered within the plant premises. Mixed spent solvent and spent acids will be provided to the recyclers. A new incinerator as per the CPCB norms will be installed during expansion of the project. Cost of expansion project is Rs. 15.0 Crore.

5.0. The synthetic organic chemicals manufacturing units are listed at serial no. 5(f) of schedule of EIA Notification, 2006 and categorized under "A" or "B" category depending upon the location of the plant outside or inside the notified industrial area. In the instant case, the plant is located outside the industrial area and is category "A" project. The Expert Appraisal Committee(I) in the 81st meeting held on 12-14th May, 2008 exempted the project from the preparation of EIA/EMP report and public hearing as per section 7(ii) of EIA Notification, 2006.

6.0 Based on the information submitted by the Project Authorities, the Ministry of Environment and Forests hereby accords the environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to compliance of the following specific and general conditions:

A SPECIFIC CONDITIONS:

i. The effluent generated shall be segregated into low TDS and high TDS streams. The high TDS stream (100m3/d) will be forced evaporated in the Multiple Effect Evaporator (MEE). The low TDS stream from process, floor washings and reactor washings (150 m3/d) will be treated in the ETP followed by RO treatment. The effluent from the boiler (148 m3/d), Cooling Tower (400 m3/d) and DM / Softener (100 m3/d) will be sent to RO. The permeates from the RO will be recycled and rejects will be sent to Multiple Effect Evaporator. The scrubbed effluent (20 m3/d) from incinerator will be evaporated in the MEE. The domestic effluent (162 m3/d) will be treated in the ETP followed by RO treatment. The treated effluent will be used for green belt development.

ii. The process emissions in the form of HCl, NH3 and SO2 shall be scrubbed with scrubber and emissions shall meet the prescribed standards. A hood with a dedicated scrubber shall be provided to scrub the bromine emissions.

iii. The project authorities shall provide the chilled brine solution in secondary condenser for condensation of the VOCs and ensure that the solvent recovery shall not be less than 95%. The solvents shall be recovered from the reactors, boilers, Wiped Film Evaporator and fractional distillation columns.

iv The company shall provide the monitoring arrangement with vents and regular monitoring shall be carried out and reports submitted to the SPCB, CPCB and Ministry's Regional Office at Bangalore

v. To prevent solvent loss, following measures shall be taken :

a. Reactor shall be connected to chilled brine condenser system
b. Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
c. The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery
d. Solvents shall be stored in a separate space specified with all safety measures.
e. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
f. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

vi. The process emissions VOCs and particulate matter from various units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.

vii. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by APPCB.

viii. For control of fugitive emission and VOCs following steps shall be followed :

a. Closed handling system shall be provided for chemicals
b. Reflux condenser shall be provided over reducer
c. Solvent handling pump shall be provided with mechanical seals to prevent leakages
d. System of leak detection and repair of pump/pipeline based on preventive maintenance.
e. Solvent shall be taken from underground storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.

ix. During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.

x. The project authorities shall develop greenbelt in 202.3 Acre project area as per the guidelines of CPCB to mitigate the effect of fugitive emission.

xi. Adequate financial provision shall be made in the budget of the project for implementation of the above suggested environmental safeguards. Fund so earmarked shall not be diverted for any other purposes.

xii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

xiii. The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.

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B. GENERAL CONDITIONS

i The project authorities shall strictly adhere to the stipulations of the SPCB/state government or any statutory body.

ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

iii. The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.

iv. Ambient air quality monitoring stations shall be set up in the downwind direction as well as where maximum ground level concentration are anticipated in consultation with the State Pollution Control Board.

v For control of process emissions, stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided. The scrubbed water shall be sent to ETP for further treatment.

vi The company shall undertake following Waste Minimization measures :-

i. Metering of quantities of active ingredients to minimize waste.
ii. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
iii. Maximizing recoveries
iv. Use of automated material transfer system to minimize spillage.
v. Use of "Closed Feed" system into batch reactors.

vii. The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the SPCB shall be obtained for collections/treatment/ storage/disposal of hazardous wastes.

viii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

ix A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions

x The project authorities shall provide rainwater harvesting system and ground water recharge.

xi. The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office /SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies

xii. The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Ministry's Regional Office.

xiii. The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

7.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

8.0. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions.

8.0. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

9.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 alongwith their amendments and rules.

P. Ahujarai

(Dr. P L Ahujarai)
Director

Copy to :-

1. The Secretary, State Deptt. of Environment, Government of Andhra Pradesh, Mantralaya, Hyderabad.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Andhra Pradesh State Pollution Control Board, Paryarana Bhawan, A-3, Industrial Area, Sanathnagar Hyderabad- 500 018 Andhra Pradesh.
4. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wing, 17th Main Road, Koramangala, Bangalore-560034.
5. Principal Chief Conservator of Forests (Wild Life), Government of Andhra Pradesh, Tulja Bhavan, M J Market, Hyderabad, Andhra Pradesh.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi- 110003.
7. Guard file/Record file/Monitoring file.

(Dr. P L Ahujarai)
Director

Government of India
Ministry of Environment, Forests and Climate Change (MoEF&CC)
Regional Office – South Eastern Zone
Nungambakkam, Chennai – 600034.

MONITORING REPORT
PART I

DATA SHEET

1		Project Type : River valley/Mining/Industry/Thermal/ Nuclear/Other Specify		Bulk Drug Manufacturing Unit
2		Name of the project		Expansion of Bulk drug unit (Change in Product Mix) at andal Choutuppal, District Nalgonda, Andhra Pradesh ow Telangana) by M/s. Divi's Laboratories Ltd, Unit-I- nvironment Clearance-Reg. ulk Drug and Intermediate Unit at Nalgonda District, ndhra Pradesh of M/s. Divi's Laboratories Lt-Environmental learance-Reg.
3		Clearance letter(s)/OM No. and dated		1.No .J-11011/1159/2007-IA-II(I) Dated: June 10, 2008 2. No.J-11011/14/95-IA.II dt 09.01.1996.
4		Locations :		
	a.	Taluk (s) District		Nalgonda District
	b.	State (s)		Telangana State
	c.	Latitudes/ Longitudes		N: 17° 13' 24"
				E: 78° 56' 42"
5		Address of correspondence:		Shri.S.Ramakrishna General Manager & Shri.S.Balaji Deputy General Manager M/s: Divi's Laboratories Limited, Unit-1, Lingojigudem (V), Choutuppal (M), Nalgonda (Dist), Telangana State – 508 252. Phone No. 08694-257001; 8978799449. Fax No: 08694-257006 (E-mail:srk@divislaboratories.com and sbalaji@divislaboratories.com)
	a.	Address of concerned project Chief Engineer (with Pin Code & telephone/telex/fax numbers		M.Rao Divi Director-Projects 040-23786300; 23786400.

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6		Salient features :		
	a.	Present status of the project		The unit is manufacturing bulk drugs.
	b.	of the environmental management plans		Air, Water, Noise polllutin has to be controlled and green belt has to be developed.
7		Break up of the project area :		**Area / Land Break-up** Utility / Existing Built up area-1 (Production, Ware House, Administration, QC, R&D, ETP & Other infrastructure) — 16.0 Built up area-2 (Hostels, Play ground & Canteen Facilities) — 10.0 Roads — 2.0 Greenbelt — 92.8 Open area — 81.5 Total — 202.3 (500 Acres) Note: 1) Every year a greenbelt of 2.5 Ha is added 2) Green Belt development with a variety of species.
	A	Submergence area (forest & non-forests)		NIL
	B	Others		..Ha
8		Break up of project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units and agricultural land and landless labourers/artisans.		NA
	A	SC,ST/Adivasis		NIL
	B	Others		NIL

9		Financial Details:		
	A	Project cost as originally planned and subsequent revised estimates and the years of price reference		Details not made available.
	B	Allocations made for environmental management plans, with item wise and year wise breakup (Capital & Recurring)		Capital Cost Environment Management (Procurement of Electro Chemical Oxidation Unit, MEE & ATFD plants, RO System, Drum Filter, Biological Aeration tanks, Prefilters etc.,)
				-
	C	Benefit cost ratio/internal rate of return and the years of assessment		-
	D	Whether (c) includes the cost of environmental management as shown in (b) above		
	E	Total expenditure on the Project so far		Details not made available.

Year	Capital Investment	Operational Costs	Cost of Monitoring & Measurement
2011	7.112	10.8	0.074
2012	8.5	12.0	0.096
2013	0.7	14.4	0.10
2014	11.95	22.0	0.10
2015	0.55	28.38	0.07
Total	**28.812**	**87.58**	**0.44**
Extra	Greenbelt Development & Eco-friendly activities – 0.30 crores		

		Actual expenditure incurred on the environmental management plans so far		Capital Cost Rs: More than 100 Cr in the last 6 years. Details with Break up: Recurring Cost Rs..... Details with Break up:

Cost Breakup
ETP & operational & Maintenance cost

S.No	Description	Cost / day	Cost / month
A.	**Process Effluent Treatment:**		
1.	ETP / ECOT Plant operation	99,423.20	29,82,696.00
2.	Biological Aeration Tank operation	1,11,763.33	33,52,900.00
3.	Pre-Filter (Pressure Sand Filter) operation	603.00	18,090.00
4.	UF operation	--	--
5.	RO operation – for process effluents	1,860.00	55,800.00
6.	MEE & ATFD operation	2,76,428.46	82,92,853.80
7.	RVDF (Drum Filter) operation	11890.00	356727.00
	Sub Total	**5,01,967.99**	**1,50,59,066.80**
B.	**Non - Process Effluent Treatment:**		
8.	Non - Process Effluent Treatment	**34,721.64**	**10,41,649.10**
C.	**Hazardous wastes handling and disposal charges:**		
9.	Solid Waste disposal cost to TSDF including transportation charges. (ATFD salt and ETP sludge)	1,51,581.00	45,47,420.00
10.	Process solid wastes disposal cost to (Spent Carbon, Organic & Inorganic solid wastes) cement industries.	5,450.00	1,63,490.00
11.	Disposal cost of Spent acid to offsite.	9,815.00	2,94,466.00
12.	Man power for Hazardous wastes re-packing, loading etc., (6 X 315/-)	1,890.00	56,700.00
13.	JCB hire cost for Loading Hazardous Wastes.	2,102.00	63,066.00
	Sub Total	**1,70,838.00**	**51,25,142.00**
D.	**Environmental Monitoring Charges:**		
14.	Environmental Monitoring contract with M/s: Ramky.	1198.50	35,955.00
15.	Online Air Monitoring AMC Charges to M/s: Swan Environment	699.73	20,992.00
	Sub Total	**1,898.23**	**56,947.00**
E.	**Salaries & Wages / Engage:**		
16.	Salaries of ECD Man power (Staff & Workmen) including 50% DGM salary – Sharing U – 1 & 2.	52,000.00	15,60,000.00
17.	Daily Man power for Drains & wastes lifting works; Birds and back yard works; ATFD & RVDF works.	16,283.00	4,88,480.00
18.	Daily tractors engage for wastes and residue lifting.	1800.00	54,000.00
	Sub Total	**70,083.00**	**21,02,480.00**
	Grand Total	**7,79,508.86**	**2,33,85,284.90**

10		Forest land requirement :		NIL

	A	The status of approval for a diversion of forest land for non-forestry use		NA
	B	The status of compensatory afforestation, if any		NA
	C	The status of clear felling		NA
	D	Comments on the viability and sustainability of compensatory afforestation programme in the light of actual field experience so far		NA
11		The status of clear felling in non-forest area (such as submergence area of reservoir, approach road), if any, with quantitative information		NA
12		Status of construction :		
	A	Date of commencement		Existing Plant operating from 1996
	B	Date of completion (actual and/or planned)		NA
13		Reasons for the delay if the project is yet to start.		NA
14		Date of site visit :		
	A	The dates on which the project was monitored by the Regional Office on previous occasions, if any		20.07.16 & 21.07.16
	B	Date of site visit for this monitoring report		23.09.2016.
15		Details of correspondence with project authorities for obtaining action plans, information and status of compliance to safeguards		

(Dr.C.Kaliyaperumal)
Director (S)

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Certified Copy of the Compliance Report.

Subject: Expansion of Bulk drug unit (Change in Product Mix) at Mandal Choutuppal, District Nalgonda, Andhra Pradesh (now Telangana) by M/s. Divi's Laboratories Ltd, Unit-I-Environmental Clearance-Reg.

Ref: 1) No. J-11011/14/95-IA.II dated 09.01.1996.
2) No .J-11011/1159/2007-IA-II(I) Dated: June 10, 2008.

Present Status of the Project: The Project Authority (PA) have obtained EC on 09.01.1996 for manufacturing of Bulk drugs initially. Then in 2008, the Project Authority (PA) have obtained Environmental Clearance (EC) for expansion of bulk drug unit (change in product mix) for 60 products. In 2013, they have gone for change in product mix with 48 products on no increase in pollution load basis and obtained CFE. Subsequenly obtained CFO. Again in 2015, they have gone for change in product mix with 38 products + 4 R&D products on no increase in pollution loads basis and have obtained CFE from TSPCB. The Project Authorities (PA) now manufacturing only 28 products out of this 38 products along with 3 R&D products.

Date of Monitoring: 23.09.2016.

PART-A: Specific conditions:

S.No	Conditions	Compliance
(i)	The effluent generated shall be segregated into low TDS and high TDS streams. The high TDS stream (100m3/d) will be forced evaporated in the Multiple Effect Evaporator (MEE). The low TDS stream from process, floor washings and reactor washings (150m3/d) will be treated in the ETP followed by RO treatment. The effluent from the boiler (148 m3/d), Cooling Tower (400 m3/d) and DM / Softener (100 m3/d) will be sent to RO. The permeates from the RO will be recycled and rejects will be sent to Multiple Effect Evaporator. The scrubbed effluent (20 m3/d) from incinerator will be evaporated in the MEE. The domestic	Complied. The process effluents are segregated into high TDS and low TDS. The high TDS effluent generation is 40m3/day presently and it is neutralized and sent to MEE. Then it is sent to Agitated Thin Film Dryer (ATFD). The salt collected from ATFD is stored and sent to TSDF. The Low TDS effluent generation from process, floor washings and reactor washings is 130 m3/ day presently and it is sent to Electro Chemical Oxidation followed by Biological Aeration system and then it is sent to Ultra filtration. After this it is sent to RO plant. The RO permeates is reused in cooling towers. The

S.No	Conditions	Compliance
	effluent (162 m3/d) will be treated in the ETP followed by RO treatment. The treated effluent will be used for green belt development.	RO reject is sent to MEE. The salt from ATFD is collected and stored and sent to TSDF. The Boiler (Fluidized Bed Combustion) blow down is 10m3/day, DM/softener generation is 50 m3/day and cooling tower bleed off is 200 m3/day at present. The incinerator is not in operation as directed by TSPCB and Zero-Discharge is followed as directed by TSPCB. The domestic effluent generation is 120 m3/day and it is sent to Biological Aeration system for treatment followed by RO and the RO permeate is reused for cooling towers. They have installed Online Effluent monitoring equipments in the inlet and outlet of ETP and the real time data is transmitted into TSPCB's server. In addition to this, manual monitoring also carried out by the project authority on daily basis as well as through approved external laboratory on monthly basis.
(ii)	The process emissions in the form of HCl, NH_3 and SO_2 shall be scrubbed with scrubber and emissions shall meet the prescribed standards. A hood with a dedicated scrubber shall be provided to scrub the bromine emissions.	Complied. The process emissions HCl, NH_3, and SO_2 are scrubbed with respective scrubbers and for bromine emissions a dedicated hood has been provided along with scrubber to meet the prescribed standards. In addition to this, standby scrubbers are also installed. All scrubbers are provided with scrubber failure alarming system as control measure and Online pH monitoring equipment.
(iii)	The project authorities shall provide the chilled brine solution in secondary condenser for condensation of the VOCs and ensure that the solvent recovery shall not be less than 95%. The solvents shall be recovered from the reactors, boilers,	Complied. They have installed solvent recovery system in the plant which consists of fractional distillation columns, high vacuum distillation facility, vent condensers re-boilers, multi distillation

S.No	Conditions	Compliance
	Wiped Film Evaporator and fractional distillation columns.	columns and chilled water circulation system. They have provided two stage condensation system with chilled brine to recover the VOC. By doing this they have achieved about 97% of solvent recovery. The recovered solvent is reused in the process.
(iv)	The company shall provide the monitoring arrangement with vents and regular monitoring shall be carried out and reports submitted to the SPCB, CPCB and Ministry's Regional Office at Bangalore	Complied. They have 11 production blocks and all the reactors and storage tanks are provided vents. They are monitoring the VOC in all production blocks through external approved laboratory and the values are within the threshold limit. The monitoring reports are submitted to SPCB and MoE&F.
(v)	To prevent solvent loss, following measures shall be taken : a. Reactor shall be connected to chilled brine condenser system b. Reactor and solvent handling pump shall have mechanical seals to prevent leakages. c. The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery d. Solvents shall be stored in a separate space specified with all safety measures. e. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. f. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve	Complied. The following measures taken to prevent solvent losses a. Reactors are connected to chilled brine condenser system. b. Reactors and solvent handling pump are having mechanical seals to prevent leakages. c. The condensers are provided with sufficient HTA and residence time so as to achieve more than 95% recovery of solvent. d. Solvents are stored in a separate space specified with all safety measures. e. Proper earthing is provided for all electrical equipment wherever solvent handling is done. f. The total plant is flame proof. The solvent storage tanks are provided with breather valve to prevent losses.

S.No	Conditions	Compliance
	to prevent losses.	
(vi)	The process emissions VOCs and particulate matter from various units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Complied. The Process emissions VOCs and particulate matter from all units are controlled by installing necessary preventive measures such as by providing stand by scrubbers, automatic alarms etc. The monitoring of VOC and particulate matter are carried out on a monthly basis through external approved laboratory and the levels are within the limit. As informed, these levels has not gone beyond the standard. They have assured that in the event of failure of pollution control system(s) the operation adopted will be immediately put out of operation and will not be re-started until the desired efficiency been achieved.
(vii)	Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by APPCB.	Complied. As stated above, the fugitive emission is monitored through external approved laboratory and the levels are within the limit of TSPCB as informed.
(viii)	For control of fugitive emission and VOCs following steps shall be followed a. Closed handling system shall be provided for chemicals b. Reflux condenser shall be provided over reducer c. Solvent handling pump shall be provided with mechanical seals to prevent leakages d. System of leak detection and repair of pump/pipeline based on preventive maintenance. e. Solvent shall be taken from underground storage tanks to reactors through closed pipeline. Storage tanks shall be vented	Complied. a. Closed handling system is provided for chemicals b. Reflux condensers are provided over reducer. c. Solvent handling pumps are provided with mechanical seals to prevent leakages. d. System of leak detection and repair of pump / pipeline based on preventive maintenance are followed. e. Solvent is taken from underground storage tanks to reactors through closed pipeline. Storage tanks are vented through trap receiver and condensers are operated

S.No	Conditions	Compliance
	through trap receiver and condenser operated on chilled water.	on chilled water.
(ix)	During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.	Complied. Spillages are generally avoided. However they have provided a dedicated pipe lines for transfer of solvents from respective solvent storage tanks to reactors in the production blocks. Spillages are collected through separate drains for further treatment. The domestic waste water and storm water are collected separately and not allowed to mix.
(x)	The project authorities shall develop greenbelt in 202.3 Acre project area as per the guidelines of CPCB to mitigate the effect of fugitive emission.	Complied. The PA have already developed 230 acres of Green belt in their factory by planting different species. They have planted so far 1,20,000 plants. The plantation work and survival are very good. The PA have a dedicated people to maintain this green belt development and they are developing green belt in an area of 2.5 ha every year.
(xi)	Adequate financial provision shall be made in the budget of the project for implementation of the above suggested environmental safeguards. Fund so earmarked shall not be diverted for any other purposes.	Complied. The PA have provided an adequate amount (capital cost Rs. 50 Crores and recurring cost Rs. 30 Crores) for environment management purpose and the allocated amount has not been diverted any other purpose.
(xii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied. Occupational health surveillance of the workers are carried out on a regular basis and records are maintained as per the Factory's Act.
(xiii)	The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.	Complied. The PA have provided dedicated fire fighting system such as fire hydrants, fire alarming system and fire water storage systems to control fire hazards.

PART-B: General Conditions:

S.No	Conditions	Compliance
(i)	The project authorities shall strictly adhere to the stipulations of the SPCB/state government or any statutory body.	Complied. The PA informed that all the stipulations made by the TSPCB and Govt.of Telangana are being implemented. The consent is valid upto December 2016.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied. No further expansion or modifications has been taken up without the prior permission of MoE&F. Now they are going for an expansion and the details are given in Annexure-III and IV.
(iii)	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.	Complied The PA have obtained an authorization from TSPCB and it is valid upto Dec, 2016 and the stipulations are implemented as informed.
(iv)	Ambient air quality monitoring stations shall be set up in the downwind direction as well as where maximum ground level concentration are anticipated in consultation with the State Pollution Control Board.	Complied. The PA have established Online Ambient air quality monitoring stations at three locations and the real time data is transmitted to TSPCB & CPCB. In addition to this, manual monitoring also is carried out through external approved laboratory on monthly basis. The AAQ levels are within the limit.

	Pollution Control Board guidelines shall be provided. The scrubbed water shall be sent to ETP for further treatment.	appropriate height as per the Central Pollution Control Board guidelines. The scrubbed water is sent to ETP for further treatment.
(vi)	The company shall undertake following Waste Minimization measures :- i. Metering of quantities of active ingredients to minimize waste. ii. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. iii. Maximizing recoveries iv. Use of automated material transfer system to minimize spillage. v. Use of "Closed Feed" system into batch reactors.	Complied. The following measures are undertaken for minimization of waste: i. Metering of quantities of active ingredients to minimize waste. ii. Reuse of by-product (solvent) from the process as raw materials. iii. Maximizing recoveries upto 97%. iv. Use of automated material transfer system to minimize spillage. v. Use of "Closed Feed" system into batch reactors.
(vii)	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the SPCB shall be obtained for collections/treatment/ storage/disposal of hazardous wastes.	Complied. Hazardous Waste Management system is followed. An Authorization is obtained for collection / treatment / storage / disposal of hazardous wastes and it is valid upto Dec, 2016.
(viii)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied. Noise levels in and around the plant area is controlled by providing noise control measures (acoustic hoods, silencers, enclosures etc) on all sources of noise generation. The ambient noise levels are monitored at 8 different locations during day and night time and the levels are within the limit.
(ix)	A separate Environmental Management Cell equipped with full fledged laboratory	Complied. The PA have established Environmental

	facilities shall be set up to carry out the environmental management and monitoring functions.	Management Cell equipped with full fledged laboratory facilities to carry out the environmental management and monitoring functions.
(x)	The project authorities shall provide rainwater harvesting system and ground water recharge.	Complied. Rain water harvesting system including roof top collections is established.
(xi)	The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office /SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies.	Complied. They are submitting six monthly reports to RO regularly.
(xii)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Ministry's Regional Office.	Complied. The PA had given an advertisement in two news papers. Eenadu and the Hindu on 16.06.2008. The copies of the same were submitted to RO.
(xiii)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied. As stated by the PA, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project were informed to the Regional Office as well as the Ministry.

This has the approval of the Addl.PCCF(C) vide diary no. 1270 dt 27.09.2016.

(Dr.C.Kaliyaperumal)
Director (S)

28

VISAKHAPATNAM

'Sea is turning into a dump yard'

SPECIAL CORRESPONDENT

VISAKHAPATNAM, JULY 07, 2010 18:36 IST
UPDATED: JULY 07, 2010 18:36 IST

Patancheru-like situation being created in North Andhra: environmentalist

Noted environmentalist J. Rama Rao has expressed concern over pollution caused by chemical units in and around Visakhapatnam and says that the Bay of Bengal is being converted into a dumping yard for hazardous effluents.

In a representation submitted to the Ministry of Environment and Forests in connection with a debate on National Green Mission, Capt. Rama Rao said as the villagers downstream the Musi were agitating against the discharge of effluents through pipelines, the pollution problem of Patancheru and the industrial areas around Hyderabad was being shifted to North coastal Andhra Pradesh in the name of industrial development.

Chemical units

The justification given was that effluents generated by these units, containing predominantly dissolved inorganic salts , which were being discharged into the water bodies in and around land-locked Hyderabad, could safely be discharged laying a pipeline deep into the sea. Pharma City at Parawada and many bulk drug and chemical units set up along the coast were already discharging the supposedly treated effluents into the Bay of Bengal, he stated.

"There is no guarantee that traces of toxic pharmaceutical ingredients, the persistent, bio-accumulative and toxic wastes from the bulk drug units, which found their way into surface and groundwater sources in and around Hyderabad, are not being discharged into sea , particularly when the detection is going to take much longer time and becomes much more difficult," he said.

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Threat to fish stock

The discharge of toxic effluents into the sea, even though they were diluted to some extent, were bound to have an adverse impact on the aquatic lifein the years to come, as the total pollution loadbeing discharged remained the same. This would hamper the fish stock availability, affecting the livelihood of the large fishermen community in the area, apart from health hazardsfor people consuming contaminated fish, Capt. Rama Rao said.

He said that the ecosystems and resources of the land-sea interface and the communities dependent on coastal resources would be adversely affected by permitting discharge of toxic effluents from bulk drug units into the sea, as it cannot be pushed beyond its limit to absorb wastes.

THE HINDU

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https://www.thehindu.com/news/cities/Visakhapatnam/lsquoSea-is-turning-into-a-dump-yard/article16188203.ece

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GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Ban – Permanent Ban on Establishment of certain Polluting Industries in Medak, Ranga Reddy, Mahaboobnagar and Nalgonda Districts- Amendment Notification – Orders-Issued.

ENVIRONMENT, FORESTS, SCIENCE & TECHNOLOGY (ENV) DEPARTMENT

G.O. Ms. No. 64 **Dated: 25-07-2013.**
Read the following:-

1. G.O. Ms. No. 95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007.
2. Representation of Bulk Drug Manufacturer's Association (BDMA), Hyderabad to APPCB, dated 18-09-2012 and Government dated 16-07-2012.
3. Order of the Hon' ble Appellate Authority dated 20-10-2012.
4. Resolution No. 1949 of 130th Board Meeting of Andhra Pradesh Pollution Control Board, dated:04-12-2012.
5. Letter No.44144/PCB/PLG/2012-65, Andhra Pradesh Pollution Control Board, dated:03-04-2013.
6. Commerce Secretary, Government of India D. O. Letter No.15/36/2013/EP (Engg/Pharma). Dated 30-04-2013.

* * *

ORDER:

In the G.O. 1st read above, Ban was imposed on the establishment/expansion of certain categories of polluting industries in all the Industrial Estates/Industrial Development Areas and other industrial areas as mentioned in the Annexure to the notification and 1km around these industrial areas of Medak, Rangareddy, Mahaboobnagar and Nalgonda districts.

(2) - In the representation 2nd read above, the Bulk Drug Manufacturer's Association (BDMA), Hyderabad requested the APPCB to allow the expansion of existing Bulk Drug and its Intermediate Manufacturing Units with Zero Liquid Discharge Facilities and Industries who could send less contaminated non-process water such as domestic, cooling tower and boiler blow down to Common Effluent Treatment Plants (CETPs) and to consider pollution load at Point of Discharge Instead of Point of Generation before installation of pollution control systems as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. They enumerated the improvements in the technology adopted by them such as Zero Liquid Discharge (ZLD) / Zero Process Liquid Discharge (ZPLD) process comprising of latest equipment such as Stripper, Multiple Effect Evaporator, Agitated Thin Film Drier (ATFD) and Reverse Osmosis (RO) etc, to control water pollution through considerable reduction in High Total Dissolved Solids (HTDS) discharges and also to bring down emission of gaseous substances mainly Volatile Organic Compounds (VOC) to control Air Pollution.

3) The Principal Secretary to Government, Industries and Commerce (CIP) Department offered his views on the present state of pollution control measures implemented by Bulk Drug and Bulk Drug Intermediates industrial units. Keeping the fact that Hyderabad attained the status as International Capital of Pharmaceutical Industry, a level playing field is a dire necessity to maintain its leadership position without compromising on pollution control. As there is overall improvement in water pollution control measures adopted by the industry, a suggestion has been made to permit the increase in production capacity to enable them to compete in the international market and to assess the pollution load at the point of discharge.

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4) In the order 3rd read above, the Hon'ble A. P. Pollution Control Appellate Authority observed that there is much improvement in the environmental conditions after industries implemented better pollution treatment techniques and Ministry of Environment and Forests (MoEF) has lifted moratorium in establishment of industries in the earlier notified industries. Imposing ban or restrictions on the industries through Administrative Orders is not justifiable and such ban and restrictions are against the Statutory provisions under (Section 2, Rule 5) of Environment (Protection) Act, 1986. The Hon'ble Appellate Authority disposed the appeals filed by the Bulk Drug and Intermediate industries with the direction that the State Government shall take a decision on the representation made by the Bulk Drug Manufacturers Association in the light of the orders passed by MoEF and the Statutory position as explained above within three months from today.

5) In the resolution 4th read above, the Andhra Pradesh Pollution Control Board in its Resolution No.1949 of 130th Board meeting resolved to recommend to the Government, the recommendations of the High Level Expert Committee (HLEC) constituted to study the request of Bulk Drug Manufacturer's Association (BDMA) to amend the G. O. Ms. No.95, dated 21-09-2007. The Committee in their report stated that the requisite treatment facilities are in place and Ministry of Environment and Forests (MoEF), Government of India has withdrawn the moratorium in Patancheru – Bollaram area after implementation of Joint Action Plan. The High Level Expert Committee recommended to the Andhra Pradesh Pollution Control Board that the expansion of capacities could be considered subject to the availability of water resources, Ambient Air Quality including Volatile Organic Compounds (VOC), Capacity of Treatment, Storage and Disposal Facility (TSDF) & Common Effluent Treatment Plants (CETP's) and their performance and scope for using organic waste in cement plants for co-processing.

6) In the letter 5th read above, the Andhra Pradesh Pollution Control Board communicated the Agenda with minutes of the 130th Board meeting of Andhra Pradesh Pollution Control Board and the report of the High Level Expert Committee with their recommendations from the technical point of view. The Andhra Pradesh Pollution Control Board recommended the expansion of existing Industries on a case to case basis in relaxation of ban order issued vide G. O. 1st read above, based on legal advice. The recommendations of the Andhra Pradesh Pollution Control Board is based on four parameters namely (i) Availability of Water resources, (ii) Ambient air quality including Volatile Organic Compound (VOC) (iii) Capacity of Treatment, Storage and Disposal Facility (TSDF) & Common Effluent Treatment Plant (CETP) and their performance and (iv) Scope for using organic waste in cement plants for co-processing. The Andhra Pradesh Pollution Control Board recommended comprehensive Zero Liquid Discharge (ZLD) for large industries with effluent generation above 25 KLD and partial ZLD / common ZLD for small industries with effluent generation below 25 KLD of total effluent. The Andhra Pradesh Pollution Control Board recommendation includes the transportation of low TDS effluent generated by the industries to the Common Effluent Treatment Plants (CETPs), meeting the inlet standards stipulated by the Andhra Pradesh Pollution Control Board.

7) In the letter 6th read above, Commerce Secretary, Government of India stated that the share in exports of Drugs and Pharmaceutical Industry from A. P. State is about 35% of the total exports from the Country. He recommended for expansion of existing units subject to compliance of pollution control norms in order to give further boost to the exports from this sector.

8) The Learned Additional Advocate General, High Court of Andhra Pradesh in his letter dated 28-03-2013 has opined that the Government may

consider to amend the condition of restriction imposed on expansion of existing industries in G. O. Ms. No.95, dated 21-09-2007, so far as expansion of production of the existing units.

9) The Government, after careful examination of the matter, have decided to issue an amendment to the G. O. Ms. No.95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007 to enable the expansion of production of the existing Bulk Drug and Bulk Drug Intermediates manufacturing units only subject to the installation of Zero Liquid Discharge (ZLD) facilities by such units and to assess the Pollution load at the Point of Discharge, as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

10. Accordingly, the following notification will be published in the Extra-ordinary Issue of the Andhra Pradesh Gazette dated 25-07-2013:

NOTIFICATION

In exercise of the powers conferred by section 19 of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act No.6 of 1974) and section 19 of the Air (Prevention and Control of Pollution) Act, 1981 (Central Act No.14 of 1981) the Government of Andhra Pradesh on the recommendations of the A. P. Pollution Control Board, Hyderabad hereby makes the following amendment to the notification issued in G. O. Ms. No.95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007.

AMENDMENT

In the said notification, after the existing Note, the following shall be added namely:-

"Provided that the expansion of production of all types of existing Bulk Drug and Bulk Drug Intermediate manufacturing units are permitted, subject to the installation of Zero Liquid Discharge (ZLD) facilities by such units and subject to the outcome of cases pending in the National Green Tribunal, Southern Zone, Chennai or in any other court. The Pollution load of industrial unit shall be assessed at the Point of Discharge, as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981."

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

M. SAMUEL
SPECIAL CHIEF SECRETARY TO GOVT.

To
The Commissioner, Printing, Stationary & Stores Purchase (Plg.wing), Chenchalguda, Hyderabad, with a request to publish the Notification in the next extra-ordinary issue of the Andhra Pradesh Gazettee, and furnish 200 copies of the same.
The Member Secretary, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, A - 3, Industrial Estate, Sanathnagar, Hyderabad.

Copy to:
All the Departments of Secretariat.
The Collectors of Medak, Rangareddy, Mahaboobnagar and Nalgonda districts.
The Commissioner of Industries, Chirag-ali-lane, Abids, Hyderabad.
The Director Agriculture, Andhra Pradesh, Hyderabad,

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The Commissioner, Information & Public relations Department,
Andhra Pradesh, Hyderabad.
The Commissioner, Environment Protection Training Research Institute
(E.P.T.R.I), Andhra Pradesh, Hyderabad,
The Chairman, Andhra Pradesh Transco, Somajiguda, Vidyuth Soudha,
Andhra Pradesh, Hyderabad.
The Prl. Secretary to Hon'ble Chief Minister.
P.S. to M (FES&T),
P.S. to Special Chief Secretary to Govt., E.F.S. & T. Dept.
All Senior Officers of Environment, Forests, Science & Technology
Department.
All Sections in Environment, Forests, Science & Technology Department.
The Law (B) Department.
SF / SC.

//Forwarded::By Order//

Section Officer

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Sources, impacts and trends of pharmaceuticals in the marine and coastal environment

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One contribution of 18 to a Theme Issue 'Assessing risks and impacts of pharmaceuticals in the environment on wildlife and ecosystems'.

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ABSTRACT

There has been a significant investment in research to define exposures and potential hazards of pharmaceuticals in freshwater and terrestrial ecosystems. A substantial number of integrated environmental risk assessments have been developed in Europe, North America and many other regions for these situations. In contrast, comparatively few empirical studies have been conducted for human and veterinary pharmaceuticals that are likely to enter coastal and marine ecosystems. This is a critical knowledge gap given the significant increase in coastal human populations around the globe and the growth of coastal megacities, together with the increasing importance of coastal aquaculture around the world. There is increasing evidence that pharmaceuticals are present and are impacting on marine and coastal environments. This paper reviews the sources, impacts and concentrations of pharmaceuticals in marine and coastal environments to identify knowledge gaps and suggests focused case studies as a priority for future research.

Keywords: pharmaceuticals, ecotoxicology, risk assessment, water quality, marine, coastal

1. INTRODUCTION

Over the last 15 years increasing attention has been paid to understanding the presence and impacts of pharmaceuticals entering or detected in freshwater ecosystems [1]. By contrast, significantly less attention has been paid to understanding releases of pharmaceuticals from sewage and other routes into coastal environments and their potential marine impacts. There is now widespread recognition of the need for a cradle-to-grave stewardship of medicines for minimizing environmental exposure while promoting human and animal health [2]. Large centres of human population are often found in coastal areas and pharmaceutical releases via municipal effluent discharges are probable. For example, Martínez *et al.* [3] reported that based on 2003 data, over 2.3 billion people live within coastal limits (representing 41% of world global population) and more than 50% of coastal countries have 80–100% of their total population within 100 km of the coastline. Twenty-one of the world's 33 megacities (cities with more than 8 million inhabitants) are on the coast and face a range of environmental management

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issues [4]. Global demographic trends towards coastal conurbations suggest increasing numbers of people living along coastlines, while waste management from coastal megacities is increasingly recognized as a major challenge [3,5,6]. These trends suggest the potential for increasing inputs of human pharmaceuticals into coastal environments and therefore the need to address potential exposure scenarios and implications for marine risk assessments of drug residues and their transformation products [7–9]. Marine risk assessments for pharmaceuticals are also relevant to veterinary medicines used in aquaculture [10–12].

More broadly, if releases of pharmaceuticals into coastal ecosystems are high enough to induce biological impacts, they may act as additional stressors on marine ecosystems already impacted by climate change, eutrophication and over-fishing [13]. It is estimated that 49% of marine ecosystems worldwide are strongly impacted by anthropogenic stressors with significant economic implications [3,14]. If unmanaged, multiple anthropogenic impacts on marine ecosystems may also affect coastal fisheries and aquaculture. For example, human health concerns linked to aquaculture include exposure to pharmaceuticals through consumption of seafood and the induction and spread of antibiotic resistance [15,16]. This paper reviews the sources, concentrations and potential impacts of human and veterinary pharmaceuticals in coastal environments to support risk assessments and to identify key knowledge gaps as priorities for future research. The scope of the review has been limited to human pharmaceuticals and antibiotics used as veterinary medicines.

2. SOURCES OF PHARMACEUTICALS IN MARINE ENVIRONMENTS

(a) Sewage

Sewage effluent is recognized as a major source of multiple pharmaceuticals, including their metabolites, entering aquatic environments. Removal rates for pharmaceuticals in wastewater treatment plants (WWTPs) range from less than 10 to almost 100% and depend on the physico-chemical characteristics of the pharmaceutical and type of treatment technology [17]. Sources of human pharmaceuticals in sewage include patient use in the community, discharges from hospitals and, in some cases, wastewater from pharmaceutical manufacturing [18]. Sewage can be discharged into marine environments through coastal and ocean outfalls for WWTPs combined sewer overflows and via rivers receiving WWTP effluents [19,20]. For example, the Yangtze River in China transports sewage from 400 million people out to sea and releases an estimated 152 tonnes of pharmaceuticals annually [21]. Sewage may also be discharged into the marine environment from boats. Ships, including cruise liners, may discharge (under Annex IV of MARPOL 73/78 ships) treated sewage into the sea 4 nautical miles from the nearest land and 12 nautical miles for untreated sewage [22]. The volumes of sewage discharged can be significant as cruise liners can have passenger numbers equivalent to populations found in small towns. Sewage effluents from small boats, on the other hand, may not receive any treatment prior to being discharged. Typhoon shelters for small boats were a point source of antibiotics in Victoria Harbour, Hong Kong [23]. As discussed by Kookana *et al.* [24] in this issue, many large cities in Asia still rely on septic tanks with poorly managed septage which can contaminate surface and groundwaters with pharmaceuticals and ultimately be discharged into coastal areas.

Sewage impacted groundwater can also be a source of pharmaceuticals entering coastal waters. Pharmaceuticals have been detected in a coastal aquifer on the Yucatan Peninsula, Mexico injected with municipal sewage discharges [25]. Reuse of treated domestic wastewater for irrigation contributed to pharmaceutical contamination in groundwater on Mallorca [26]. Throughout the world rural and peri-urban areas including popular coastal holiday areas are reliant on septic tanks or small decentralized systems for sewage treatment disposal [27]. Depending on their treatment efficiency and the capacity of the local soils, these systems are a potential source of pharmaceuticals in coastal waters via leakage to ground and surface waters [28,29].

(b) Aquaculture

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Globally the production of seafood through aquaculture is rapidly increasing with over 90% of aquaculture based in Asia [30]. A range of veterinary medicines including antibiotics, also registered for human use, is used prophylactically and to control disease outbreaks in marine aquaculture. Up to 75% of the administered dietary dose of a veterinary medicine can be lost to the surrounding environment. The loss mechanisms include dispersal of non-ingested pellets, gill and renal excretion of the unprocessed drug, and renal and faecal excretion of drug metabolites [31]. Other marine organisms in the vicinity including wild fish feed on leftover food and faecal material from marine aquaculture potentially further spreading pharmaceuticals and their transformation products. Pond-based farms located in coastal areas are also a source of antibiotics entering coastal waters through leaks and discharge of wastewaters which can contain elevated concentrations of pharmaceuticals. Extremely high antibiotic concentrations of up to 2.5 mg l^{-1} were measured in water samples from shrimp ponds in Vietnamese mangroves [32]. The ancient practice of wastewater- (human and animal) fed aquaculture, although declining, still occurs in some parts of Asia [30]. Aquaculture practices including the use of antibiotics vary greatly between countries [33].

(c) Animal husbandry and horticulture

Animal husbandry and horticulture along rivers and in coastal areas may also contribute to loadings of pharmaceuticals entering coastal waterways [17,34]. Antibiotics are added to animal feeds and in some cases drinking water to treat disease particularly in feedlots housing large numbers of animals [35]. The use of low doses of antibiotics in feed as growth promoters still occurs in some regions of the world despite being banned in Europe [36]. Some countries permit the use of antibiotics including oxytetracycline and streptomycin on horticultural crops [17]. Application of municipal biosolids to farmland as fertilizer is a further source of pharmaceuticals entering agricultural systems [37].

(d) Waste disposal

Waste disposal in coastal areas is a further source of pharmaceuticals entering the marine environment. Leachate from coastal landfills and seafills may be a pathway for pharmaceuticals disposed of in household and clinical wastes to enter coastal waters. Landfill leachate on the island of Mallorca contained up to 27 000 ng l^{-1} total concentration of pharmaceuticals [26]. Historically, in some regions drug manufacturing waste, sewage sludge and animal manure were dumped at sea [38,39].

(e) Environmental fate of pharmaceuticals in marine environments

Once discharged into aquatic environments, pharmaceuticals and their metabolites can undergo biotic and abiotic transformation (degradation) and sorb to suspended particulate matter (SPM) and sediments, and in some cases accumulate in the tissues of aquatic organisms [40]. Existing data for the environmental fate of pharmaceuticals generated for freshwater environments may not necessarily be transferable to marine environments. The differences in physico-chemical conditions including salinity, pH and organic matter between freshwater and seawater can impact on the environmental fate of pharmaceuticals [41]. The environmental fate of ionizable pharmaceuticals may be altered by the increased pH of seawater. Photodegradation may be a less important removal mechanism in coastal waters compared with more shallow freshwater environments due to light attenuation. Indirect photodegradation mechanisms may differ to those occurring in freshwater due to differences in water composition [42,43]. There is some evidence to suggest that the environmental fate of pharmaceuticals can differ between fresh and saline environments. The transformation behaviour of ibuprofen differed between freshwater and seawater [44] and prochlorperazine was more stable in seawater than freshwater [43].

3. CURRENT STATE OF KNOWLEDGE OF PHARMACEUTICAL CONCENTRATIONS IN MARINE ENVIRONMENTS

(a) Seawater

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The assessment of the concentrations of pharmaceuticals in coastal environments has been limited. Forty-nine studies have reported concentrations for individual pharmaceuticals and metabolites detected in estuarine and coastal waters. Only studies published since 2000 are considered. Seventy per cent of these studies have been published since 2010. The geographical breakdown for the studies is Europe (20), Asia (21), North America (6), South America (1) and Oceania (1). The studies included those investigating the presence of 30 or more pharmaceuticals over a wide spatial area [45] studies targeting specific classes of compounds, for example, sulfonamide antibiotics [34] and method validation studies screening only a limited number of 'real' samples [46].

To date, 113 pharmaceuticals and pharmaceutical metabolites have been detected in coastal waters at concentrations ranging from 0.01 to 6800 ng l^{-1} with the maximum concentrations for 69 of these compounds exceeding the European Medicines Agency threshold for predicted environmental concentrations for surface waters of 0.01 μg l^{-1} [47] (electronic supplementary material, tables S1–S3). Data were most frequently reported for antibiotics (41 compounds) followed by non-steroidal anti-inflammatories (8) and analgesics (8). Twenty compounds were reported in five or more studies (table 1) including acetaminophen, atenolol, carbamazepine, clarithromycin, diclofenac, 17α-ethinyloestradiol, erythromycin-H_2O, gemfibrozil, ibuprofen, ketoprofen, naproxen, norfloxacin, oxafloxacin, propanolol, roxithromycin, sulfadiazine, sulfadimidine, sulfamethoxazole, tetracycline and trimethoprim. The higher frequency of reporting for concentrations of antibiotics and painkillers for the marine environment are consistent with Hughes *et al.* [1] synthesis of pharmaceutical data for freshwater environments.

Table 1.

Summary of seawater and biota concentrations and marine ecotoxicology data for the human and veterinary pharmaceuticals most frequently detected in seawater (ww, wet weight; dw, dry weight).

		seawater		marine biota			marine ecotoxicolo	
pharmaceutical	class[a]	no. studies	concentration range [ng L^{-1}]	no. studies	concentration range [ng g^{-1}]		no. studies	organisms tested
					dw	ww		
acetominophen	analgesic	7	1.9–1952	1	65–115		1	mussels
ibuprofen	analgesic	18	0.01–2370				2	algae mussels
carbamazepine	anticonvulsant	18	0.4–1400	4	1.3–11		2	algae amphipods
erythromycin-H_2O	antibiotic metabolite	9	0.1–1900	2	0.1–2			
clarithromycin	antibiotic	8	0.3–17.6					
norfloxacin	antibiotic	8	2.3–6800	3	370	2.7–255		
ofloxacin	antibiotic	7	3.5–5100	3	5–242			
roxithromycin	antibiotic	8	0.1–630					
sulfadiazine	antibiotic	10	0.4–71.8	3	2.7	3.0–5.2		
sulfadimidine	antibiotic	9	0.2–219	3	29.8–430	3.9		
sulfamethoxazole	antibiotic	18	0.6–765	2	20.1	2.3		
tetracycline	antibiotic	7	2.4–313	1		1.9	1	bacteria diatom
trimethoprim	antibiotic	20	0.2–870	1	<4–9			
atenolol	anti-hypertensive agent	5	3.8–293	2	0.3–13			
propranolol	anti-hypertensive	5	0.3–142	1	19–52		3	mussels

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[a]Class descriptors as used in DrugBank [http://www.drugbank.ca/; [48]].

[b]Units are ng g^{-1} lipid.

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Current methodologies targeting the dissolved fraction of pharmaceuticals may be underestimating the environmental concentrations and the potential impacts on aquatic ecosystems [49]. The majority of the studies published to date have reported pharmaceutical concentrations in seawater for the dissolved fraction only with filtering being the first step in sample extraction methods. Two studies have investigated pharmaceutical concentrations in SPM. Mean concentrations of pharmaceuticals in SPM (more than 0.7 μm) from the Long Island Sound Estuary ranged from 7 to 44 ng g^{-1}. The pharmaceuticals detected in the SPM were either hydrophobic, for example, tamoxifen, or positively charged, for example, clarithromycin, and up to 47% of the total concentration was sorbed to the SPM [19]. Yang *et al.* [19] compared concentrations of pharmaceuticals in the sediment, SPM and the colloidal and soluble phases in the Yangtze River Estuary and adjacent coastal areas. SPM concentrations were up to 5 times higher than that in the sediments. The colloidal phase had sorption affinities of 2–4 orders magnitude greater for pharmaceuticals than the SPM and contributed up to 45% of the target pharmaceuticals in the Yangtze system.

Pharmaceutical metabolites and transformation products can be more persistent and more toxic than the parent compound [50]. Twenty-one studies reported data for pharmaceutical transformation products in coastal waters with erythromycin-H_2O the most commonly reported transformation product. Transformation products can be present in WWTP effluents and surface waters at concentrations equivalent to or exceeding the parent compound. For example, concentrations of metabolites of carbamazepine (carbamazepine epoxide), diclofenac (4′- and 5-hydroxy diclofenac) and atorvastin (*o*- and *p*-hydroxy atorvastin) in wastewater discharged into the Oslofjord were present at higher concentrations than the parent compounds [51]. Similarly the concentrations of sulfonamide metabolites measured in Liaodong Bay, China were comparable to those of the parent compounds [34].

Pharmaceuticals have been detected significant distances from their source(s). Pharmaceuticals were detected at a reference site approximately 9 km downstream from the WWTP outfall in Halifax Estuary [52]. Similarly, pharmaceuticals in the Baltic Sea were detected 17 km downstream of WWTP outfalls [53]. Zhang *et al.* [54] detected antibiotics including erythromycin-H_2O, sulfamethoxazole and trimethoprim (0.1–16.7 ng l^{-1}) 400 km offshore of the coast of China.

(i) Seasonal trends

Identifying seasonal trends for pharmaceutical concentrations in marine and coastal waters is crucial for determining time periods during which sensitive ecosystems may be at greater risk from exposure [55,56]. To date only a handful of studies have investigated seasonal trends for pharmaceutical concentrations in the marine environment. Pharmaceutical concentrations in the Yangtze River and Pearl River Estuary were higher in the dry season than in the wet season [57]. Similarly, heavy rainfall events reduced pharmaceutical concentrations in Jamaica Bay, a wastewater impacted estuary [20]. Conversely, Zheng *et al.* [58] and Qi *et al.* [21] reported increased river water concentrations of antibiotics in China during the wet season and attributed the increased concentrations to increased runoff of veterinary medicines and decreased efficiency of WWTPs due to increased wastewater flow. Temporal trends in pharmaceutical concentrations were not observed in Southern California coastal waters with relatively constant year-round temperatures [59]. By contrast, Hedgespeth *et al.* [55] reported higher probability of detecting acetaminophen in seawater from Charleston Harbor, South Carolina during winter. Pharmaceuticals were transported further downstream when the Aura River (Finland) was covered by snow and ice with the spring snowmelt increasing the speed of transport [60].

Seasonal trends in WWTP effluent pharmaceutical concentrations have also been reported which will in turn influence seawater concentrations. For example, total concentrations of NSAID drugs and bezafibrate were 3–5 times higher in effluent in winter than in summer [60]. Reduced removal rates in WWTPs and in surface seawaters can occur during colder months due to lower temperatures and resulting in lower rates of biological activity enhancing the persistence of pharmaceuticals in marine ecosystems [43]. Reduced sunlight levels during winter can inhibit removal of pharmaceuticals susceptible to photodegradation [60]. Snowmelt reduced pharmaceutical concentrations in effluent in Norway [61]. Seasonal trends in pharmaceutical usage should also be considered [62]. Antibiotic use patterns can be influenced by a number of factors. High antibiotic use in winter can be due to the inappropriate use for treating respiratory tract infections including the common cold and viral

infections [63]. Anti-allergenic medicines may also have a seasonal profile. Wastewater concentrations of over-the-counter anti-allergenic cetirizine peaked in summer and followed the pollen season [64]. Certain disease-specific pharmaceuticals, such as antiviral drugs, will peak during disease outbreaks, as has been demonstrated for oseltamivir (Tamiflu) during the recent influenza A(H1N1)pdm09 outbreak in Europe [65].

(b) Sediment data

Sediments are a reservoir for the accumulation of pharmaceuticals in marine ecosystems and can act as a secondary pollution source from which pharmaceuticals can be released by changes in environmental conditions such as salinity and pH [57]. Sediments can be resuspended during tidal changes and during storm events exposing marine biota to sorbed pharmaceuticals. Twenty-two studies reporting sediment concentrations of pharmaceuticals for estuarine and marine environments have been published since 2000. In total, 62 pharmaceuticals and transformation products have been detected in marine sediments at concentrations up to 2 615 000 ng g^{-1} wet weight (electronic supplementary material, tables S4 and S5). Excluding the extremely high concentrations of antimicrobials measured in marine shrimp aquaculture pond sediments [32], 17α-ethinyloestradiol was the pharmaceutical measured in sediment at the highest concentration (129.8 ng g^{-1}). 17α-ethinyloestradiol was also the pharmaceutical most frequently detected with sediment concentrations reported for nine studies. All other pharmaceutical compounds were reported in a maximum of three studies. Data were most frequently reported for antibiotics (26 compounds) followed by anti-hypertensive agents (6). Marine sediment data for pharmaceutical transformation products and metabolites are currently almost non-existent with only four studies reporting concentrations of pharmaceutical metabolites in marine sediments. Langford & Thomas [51] reported concentrations of α-hydroxy metoprolol (1–3 ng g^{-1}) and simvastatin hydroxy carboxylic acid (2–4 ng g^{-1}) in sediments collected from Oslofjord in Norway. Erythromycin-H_2O was reported in San Francisco Bay (3.4 ng g^{-1} dw) [66] and in the Pearl River Estuary, China (0.7–14 ng g^{-1} dw) [57]. Only nine of the 22 studies analysed both seawater and sediment samples.

(c) Factors influencing pharmaceutical concentrations in seawater and sediment

Factors reported to increase concentrations of pharmaceuticals in seawater and sediment include proximity to WWTP outfalls [67,68], higher effluent outflows [69], size of the urban area and population [11,70,71], the number of rivers discharging into coastal waters [70], the type of wastewater treatment [19], low mixing and dilution rates for WWTP effluents [72], the hydrodynamic flushing and residence time for confined water bodies [61,73,74], the type, scale and density of animal husbandry [34,58] and proximity to aquaculture [74,75]. Higher concentrations of pharmaceuticals have been measured in estuaries during low and incoming tides [76]. Re-suspension of sediments during weather events including monsoons and during incoming tides can increase surface water concentrations of pharmaceuticals. Stratification of pharmaceuticals in the water column with higher concentrations being measured at the surface has been reported in the Long Island Sound Estuary [19] and in Victoria Harbour, Hong Kong [77]. Local conditions may inhibit wastewater treatment resulting in higher surface water concentrations. For example, Arctic permafrost conditions reduce the efficiency of WWTPs [78].

(d) Marine biota

Data for accumulation of pharmaceuticals in marine biota are scant most probably because of the lack of reliable analytical methods for these challenging analytical matrices [66]. Fourteen studies were identified reporting data for concentrations of pharmaceuticals in finfish, crustaceans and shellfish (electronic supplementary material, table S6). Ten of these studies reported results for filter-feeding marine shellfish and five for marine finfish. Tissue concentrations of 60 pharmaceuticals and seven metabolites have been reported with antibiotics being the most frequent class reported (38) followed by anti-hypertensive agents (6). Carbamazepine, ciprofloxacin and enrofloxacin were the most frequently reported compounds each being reported in four studies. Only three studies reported concentrations for pharmaceutical transformation products including erythromycin-H_2O, salicylic acid and metabolites of

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venlafaxine [62,66,79]. Higher concentrations of venlafaxine metabolites than parent compound were detected in mussels (*Mytilus galloprovincialis*). As some marine organisms also metabolize pharmaceuticals [80], a wide range of metabolites could potentially be present.

Marine organisms can be exposed to pharmaceuticals over widespread geographical areas. The anti-depressant sertraline was detected at 43 of 68 mussels sampling stations along the California Coast [81]. Antibiotics were detected in 142 out of 190 mollusc samples collected from nine cities along the Bohai Sea in China [82]. Detectable concentrations of pharmaceuticals were measured in wild seafood samples purchased from Czech supermarkets including squid caught in the Eastern Central Pacific, herring from the Atlantic Northeast and shark from the Eastern Central Atlantic [83].

Pharmaceuticals have been detected in marine organisms despite not being detected in water or sediment. Ranitidine, sertraline and enlapril were detected in mussels from San Francisco Bay but not in seawater [66]. Diazepam was detected in all liver samples of hornyhead turbot but only infrequently detected in sediments near wastewater outfalls in the Southern Californian Bight [84]. Fluoroquinolone antibiotics were detected less frequently in water than in fish from six sampling sites in two marine aquaculture regions of the Pearl River Delta, China [74].

Pharmaceutical uptake in marine organisms is compound, species and body-tissue specific. Oxytetracycline preferentially accumulated in the viscera and oxolinic acid in the gills of *Mytilus edulis* [85]. Concentrations of fluoroquinolones antibiotics in fish from marine aquaculture regions of the Pearl River Delta were higher in liver tissue than in muscle tissue [74]. Fluoxetine tissue concentrations in *Mytilus gallioprovincialis* followed the order digestive gland>gills>mantle/gonads [86]. Li *et al.* [82] reported differences in uptake of antibiotics between mollusc species harvested from the Bohai Sea, China. In some situations, gender may also influence uptake of pharmaceuticals by marine organisms. Higher concentrations of diazepam were measured in male than female *Pleuronichthys verticalis* (hornyhead turbot) [84]. These preferential uptakes have implications for ecotoxicological impacts and human exposure to pharmaceuticals via consumption of seafood.

Field data for bioaccumulation of pharmaceuticals in marine organisms is limited. Field-derived bioaccumulation factors (BAFs) for pharmaceuticals in mussels from San Francisco Bay included dehydropnifedipine (290–764), carbamezepine (90–322), diphenhydramine (118–218), triamterene (57–71) and erythromycin-H_2O (11–54). The BAFs varied between sites by up to a factor of 7 [66]. Bioconcentration factors (BCFs) ranged from 1300 to 1500 for uptake of 17α-ethinyloestradiol by mussels (*M. galloprovincialis*) harvested from Venice Lagoon, Italy [87]. Field-derived BAFs for antibiotics ranged from 0 to 11 000 in shellfish collected from the coastal environment of Dalian in China. Based on the average BAFs, the authors concluded that sulfamethazine, sulfamethiazole, sulfamonomethoxine and doxycycline are potentially bioaccumulative and that sulfadiazine, sulfameter, sulfamethoxypyridazine and chloramphenicol are bioaccumulative in shellfish [88].

The uptake of pharmaceuticals by marine bivalves has been investigated using laboratory assays. Maximum BCF values in mussels of 100 were reported for tetrazepam and 51 for diazepam [89] and ranged from 200 to 800 for fluoxetine [86]. BAFs for diclofenac and propanolol in mussels (*Mytilus edulis*) ranged between 10 and 180 [90] and from 0.12 to 2 for oxytetracycline and from 0.27 to 0.55 for oxolinic acid [85]. No studies could be found reporting BCFs or BAFs for the uptake of pharmaceuticals by marine finfish.

Only one study has reported pharmaceutical concentrations in higher tropic level marine organisms. Federova *et al.* [83] reported a flumequine concentration of 2.9 ng g^{-1} in an Eastern Central Atlantic shark sample. It is probable that trophic transfer of pharmaceuticals to top level predators including sharks, dolphins and whales is occurring in coastal ecosystems. Six anti-depressants and ethinyloestradiol were measured at trace concentrations (below quantitative limit to 4 ng ml^{-1}) in plasma from bull sharks (*Carcharhinus leucas*) caught in the Caloosahatchee River, a wastewater impacted freshwater tributary of Florida's Charlotte Harbour [91]. The personal care product triclosan has been detected in plasma from wild Atlantic bottlenose dolphins (*Tursiops truncatus*) [92] and UV filters have been detected in Franciscana dolphins (*Pontoporia blainvillei*) [93]. Coastal avian species that feed on fish and shellfish may also be chronically exposed to pharmaceuticals.

4. BIOLOGICAL IMPACTS IN MARINE ORGANISMS

(a) Marine ecotoxicology studies

While the body of work on the aquatic ecotoxicology of both human and veterinary pharmaceuticals is steadily growing, there is currently minimal data on the toxicity of pharmaceuticals to marine organisms. Only one study reporting field ecotoxicity data for marine organisms could be found. Exposure of benthic microalgal communities in the North Inlet Estuary (USA) to the antimicrobial tylosin in sediments resulted in reduction of microalgal biomass and primary productivity and retarded diatom growth [94]. Laboratory ecotoxicity data could be found for 22 compounds and for the majority of compounds only one or two studies have been undertaken using marine organisms (electronic supplementary material, table S7). Fluoxetine was the exception, with marine ecotoxicity data reported in seven studies. Marine ecotoxicity laboratory data could be found for only seven of the 20 pharmaceuticals most frequently reported in seawater highlighting the current gap between researchers focusing on environmental presence and researchers focusing on ecotoxicity (table 1). Only one of these studies investigated the toxicity to sediment dwelling organisms [95]. A limited range of marine organisms have been tested to date including primary producers (e.g. microalgae and diatoms), primary consumers (e.g. bivalve molluscs and copepods) and consumers (e.g. crustaceans and fish). It is of great concern that in most studies nominal rather than measured pharmaceutical exposure concentrations were used.

Despite the limited number of studies, a wide variety of adverse effects have been reported for marine organisms with the effects being both test species and pharmaceutical specific. Examples of reported adverse effects for analgesics include reduced feeding rates [96], impacts on survival [97], reduced mussel byssus strength [90] and changes in immune response [96] and biochemical markers [98]. Studies have tended to focus on endpoints related to the therapeutic mode of action of the pharmaceutical. For example, reduced survival and developmental effects have been reported for anti-cancer drugs whereas studies on anti-depressant drugs have focused on neurobehavioural endpoints and spawning [99,100]. The reported no observable effect concentrations (NOECs) and lowest observable effect concentrations (LOECs) ranged from several orders of magnitude above environmental concentrations to comparable to reported environmental concentrations. For example, despite the NOECs for diclofenac for effects on bysuss strength and oxidative stress in mussels of 1000 μg l^{-1}[101], transient tissue-specific changes were reported after a 7 day exposure to 0.25 μg l^{-1} diclofenac [98], a concentration well within the range reported in seawater (table 1).

Pharmaceuticals are present in marine ecosystems as mixtures complicating risk assessments. These complex mixtures may contain a wide variety of pharmaceuticals and other contaminants as well as a number of compounds from the same class (e.g. quinolone antibiotics) or with similar modes of action (e.g. non-steroidal anti-inflammatories) [102]. Additive effects have been reported for mixtures of pharmaceuticals on marine organisms. DeLorenzo & Fleming [103] investigated the toxicity of six pharmaceuticals and personal care products to the marine phytoplankton species *Dunaliella tertiolecta* both singly and in binary mixtures and reported additive toxicity for a mixture containing simvastatin and clofibric acid. As mixture toxicity effects including synergistic effects have also been reported for freshwater organisms and cell lines [104,105], NOECs and LOECs derived from single substance testing may not be sufficient for deriving environmental quality standards [106].

There is a need to assess the impacts of pharmaceuticals on marine food webs. Marine food webs could either be directly affected through bioaccumulation of pharmaceuticals in the food chain to toxic levels or indirectly through the loss of a key species particularly sensitive to pharmaceuticals. The impacts of pharmaceuticals on primary producers such as phytoplankton is a key concern for marine ecosystems due to the potential follow on effects on nutrient cycling and availability of food for other organisms [103]. Similarly, endocrine disrupting compounds which impact growth and reproduction in fish have the potential to affect predator and prey species [107].

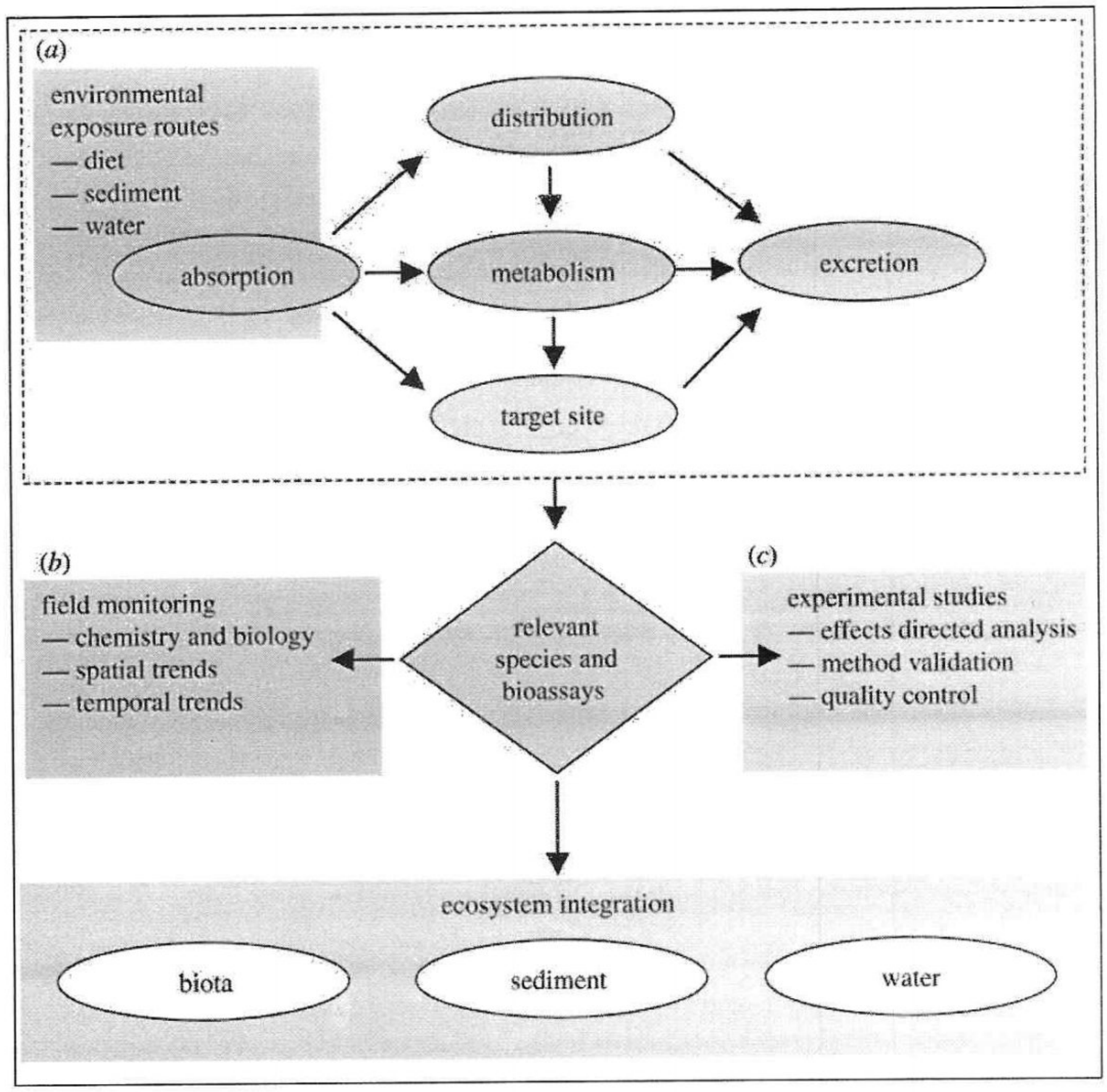
(b) Antibiotic resistance

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Exposure of microorganisms to sub-lethal concentrations of antimicrobial compounds including antibiotics can induce antibiotic resistance. The rapid development of antibiotic resistance in bacteria is considered to be a global health security emergency and attention is being focused on mechanisms of transfer of antibiotic-resistant bacteria between species and identifying aquatic environmental reservoirs [108]. As high rates of horizontal gene transfer have been reported for marine bacteria [109], the contribution of contaminants in the marine environment to induction of antibiotic resistance and pathways for dispersal of clinically relevant antibiotic-resistant pathogens warrant further investigation. The development of antibiotic resistance in marine bacteria has been linked with wastewater discharges and the use of antibiotics in aquaculture [33,58]. Widespread antibiotic resistance has been reported in fish, marine mammals and seabirds living in coastal waters including in the North Eastern United States [110]. Higher prevalence of antibiotic-resistant strains of bacteria has been reported for marine wildlife populations exposed to sewage [111] and there is evidence to suggest that the antibiotic-resistant bacteria present in seabirds are of human origin [112]. The presence of antibiotic resistance genes in marine ecosystems may be an indicator of ecological shifts occurring due to the presence of pharmaceuticals [113].

5. DATA GAPS AND PRIORITIES FOR FUTURE RESEARCH

This review has highlighted that human and veterinary pharmaceuticals and their transformation products (including metabolites) are present in coastal ecosystems. Occurrence data for the marine environment are only available for a tiny fraction of the large number of pharmaceuticals currently in global use. There are extremely limited laboratory ecotoxicology data for the impacts of pharmaceuticals on marine organisms and a marked lack of field data. As for other ecosystems, a forward-looking prioritization approach is needed for the marine risk assessment of both generic and novel prescription pharmaceuticals. For example, such an approach has been successfully used for Tamiflu that involved defining both the predicted exposure concentration (PEC_{marine}) and predicted no-effect concentrations ($PNEC_{marine}$) to provide a prospective risk assessment [8]. For the $PNEC_{marine}$ to be reliable, it is important to consider the mode of action of the pharmaceutical, for instance, through the evaluation of Adverse Outcome Pathways in freshwater organisms and to extrapolate this to marine species [114] (figure 1). An Adverse Outcome Pathway is a conceptual framework for the link between exposure, the interaction of a contaminant at the molecular level within a cell and an adverse outcome or toxicological endpoint at the individual or community level.



Open in a separate window

Figure 1.

Adverse outcome pathways of chemicals fundamentally reflect patterns of absorption. distribution, metabolism, excretion and target sites in either acute or chronic exposure scenarios pertinent to marine contaminant monitoring. (Adapted from Hutchinson *et al.* [113].)

Mechanisms for the increased sharing of data also need to be developed and a number of schemes have been developed in Europe (see the Swedish scheme www.fass.se and http://www.lif.se/default.aspx?id=29916 and the Norman network's EMPODAT Database www.norman-network.net/empodat) and by individual companies through their Material Safety Data Sheets for specific pharmaceuticals. More widely, Daughton [56] recently proposed the development of a database on pharmaceutical occurrence in the environment, contributed to and curated by the wider science community.

The monitoring of prioritized pharmaceuticals and relevant metabolites in coastal environments should be considered as complementary to prospective risk assessments and include both dissolved and particulate fractions. In Europe, the Water Framework Directive (WFD; Directive 2000/60/EC) covers both freshwaters and transitional waters (the estuarine and coastal area up to one nautical mile, or 1.85 km, from the shore). Two hormones (17α-ethinyloestradiol and 17β-oestradiol) and diclofenac have been placed on a watch list for emerging pollutants under the WFD. In a global context, it would be prudent to develop a monitoring suite of priority pharmaceuticals and transformation products that can

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be used in conjunction with biological assays to identify marine environments at risk from major centres of pharmaceutical inputs (e.g. WWTPs from megacities, intensive areas of aquaculture and pharmaceutical manufacturing industries).

As highlighted in reviews for pharmaceutical concentrations in freshwater [1] there is a marked absence of data for pharmaceuticals in marine environments in many regions (notably Africa, South America and small island nations in Oceania). These data gaps could easily be overcome by collaboration between well-resourced groups, with access to appropriate technology and validated analytical methods in developed countries, and local scientists in developing countries, at the same time providing valuable scientific and technical training.

The majority of data reported to date for pharmaceutical concentrations in marine organisms are for antibiotics used in aquaculture. In contrast, there are limited data for the accumulation of other classes of pharmaceuticals, their metabolites and transformation products in marine organisms. Further research is required to identify appropriate analytical methods for risk assessments for fish and shellfish to ensure that potentially reversible pharmaceutical metabolite conjugates are accounted for.

There are insufficient data on the potential for impacts on higher trophic levels, either through trophic transfer of pharmaceuticals or indirect effects, such as limited availability of food, due to impacts on lower trophic levels including algae. For high priority pharmaceuticals, it would be desirable to extend the environmental assessment to include fish-eating birds and mammals as recently illustrated by Murray Smith *et al.* [115].

SUPPLEMENTARY MATERIAL

Data files:

Click here to view. (92K, xlsx)

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J-11011/408/2014-IA II (I)
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Ministry of Environment, Forests and Climate Change
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Subject: Bulk Drug Manufacturing Unit at Plot/Survey Nos. 447, 450-52, 455 to 476, 482 to 510 at Village Ontimamidi (Kona), Mandal Thondangi, District East Godavari, Andhra Pradesh by M/s Divi's Laboratories Unit (Unit IV). –reg. TOR

Ref. No.: Your Letter no. Divis IV/MoEF/EF/01/2014 dated 23rd December, 2014

Sir,

Kindly refer your letter no. Divis IV/MoEF/EF/01/2014 dated 23rd December, 2014 alongwith project documents including Form-I, Pre-feasibility Report and draft 'Terms of Reference' as per the EIA Notification, 2006. It is noted that proposal is for Bulk Drug Manufacturing Unit, Plot/Survey Nos. 447, 450-52, 455 to 476, 482 to 510 at Village Ontimamidi (Kona), Mandal Thondangi, District East Godavari, Andhra Pradesh by M/s Divi's Laboratories Unit (Unit IV).

Following products as per submission in Form-1 are now proposed to be manufactured:

S.N.	Product	Quantity (MTPA)
1	(+) N-Formyl Octa Base	450
2	Octamandalate Base	780
3	PMPA	780
4	CHEA (100%)	540
5	Atipadichloride	1210
6	2-(S) – Acetoxypropionyl chloride	135
7	4-CPCCA	50
8	3-HAP	330
9	Benzyladrinone HCl	560
10	2-Acetyl-6-methoxy naphthalene	5000
11	2-(n-Butyl)-4-Chloro-5-formyl imidazole	250
12	Beta-Ionylidine ethyl triphenylphosphene bromide	400

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13	C10-dialdehyde	150
14	1,2,3-TriO-Acetyl-5-deoxy-n-ribofuranose	50
15	Acetonide	132
16	1-Pentynol	84
17	Lycopene	30
18	Beta-Carotene	100
19	Cathaxanthin	10
20	Appocarotenal	50
21	Lutein	50
22	Asthaxanthin	60
23	ZL-Valine	150
24	DL-2,2-Dimethyl cyclopropane-1-carboxylic acid	30
25	Dimethylacetylene di carboxylate	60
26	N-Hydroxysuccinamide	
27	Iopamedal	300
28	Iohexol	300
29	Valsartan	100
30	AXN	100
31	Losartan (k)	100
32	Mesalamine	200
33	Orlistat	30
34	Allogliptin	10
35	Linagliptin	10
36	Saxagliptin	5
37	Merabegran	20
38	Safosobavir	10
39	Daltagravir	10
40	S-Nicotinprolacrylics	10
41	GSK 488062C (API)	1
42	GSK 2256098C (API)	1
43	ES-Omiprazole	5
44	Pentaprozole	20
45	Viladazone	2
46	Vildagliptin	75
47	GSK API	5
48	MK-3682	2
49	DTTA Salt	15
50	Ethyl ester	10
51	2,4-Thiazole methyl amine	50
52	5-[4-Methylbiphenyl-2yl]-2trityl-2Htetrazole	500
53	L-Valine methyl ester HCl	382
54	4-Bromethylbiphenyl-2-carbonitrile	630
55	NOG	400
56	2,4,5-Triflurophenylacetic acid	350
57	Triazole HCl	350
58	Ethyl-2-Isocyanato Acetate	10
59	1-Methyl-1h-Pyrazole-5-Boronic Acid	10
60	5-Amino-2-Methyl Benzene Sulfonamide	10
61	O-benzyl hydroxylamine hydrochloride	10
62	[(=/-)-trans-1,2-bis(,ethanesulfonyloxymethyl)cyclohexane	5
63	4-(1,2-benzisothiazole-3-yl)-piperazine	2
64	DL-Nicotine	10

65	P-Methyl –PyrrolidinoPropiophenoneHcl	10
66	2-Amino-6-Bromo Pyridine	10
67	6-Chloro Uracil	10
68	3-Phthalimido piperidine	10
69	Bocazidepiperdine	10
70	Chloroquinozoline	10
71	8-Bromo-7-(but-2-ynyl)-3-methyl-1H Purine-2,6 (3H,7H)dione	10
72	3,5-DiO-benzoyl-2-deoxy-2-fluoro-2-C-methyl-D-robono-y-Lactone	25
73	6-r-2,26-Trimethyl-1,4-cyclo hexadione	15
74	Aminobutanol	20
75	Difluorobrnzyl amine	20
76	5-Amino-1-isopropyl-3-methyl pyrazole	5
77	2,5-dichloro-4-ido pyridine	5
78	Ranolazine	5
79	(2'R)-N-Benzoyl-2'-deoxy-2'-fluoro-2'methylcytidine 3',5'-dibenzoate	25
80	2'-deoxy-2'-fluoro-2'-C-methyluridine	25
81	Butorphenol tartrate	20
82	4-Chloro-2-butanone	5
83	Boc-L-3-fluorophenyl alanone	0.5
84	2-Carbethoxy-3-cyano-5-methyl hexanoic acid ethyl ester	2
85	GSK 2357577A	0.5
86	5-(2-Phenyl ethyl)-2-(Propan-2-Y1)Benzene-1,3-diol	0.5

2.0 Draft Terms of Reference (TOR) have been discussed and finalized during the 28th Reconstituted Expert Appraisal Committee (Industry) held during 20th-21st January, 2015 for preparation of EIA/EMP report. Following are the 'TORs':

A. Standard TOR

1. Executive summary of the project
2. Justification of the project.
3. Project location and plant layout.
4. Promoters and their back ground.
5. Regulatory framework
6. A map indicating location of the project and distance from severely polluted area
7. Infrastructure facilities including power sources.
8. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
9. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
10. Present land use based on satellite imagery for the study area of 10 km radius.
11. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
12. Details of the total land and break-up of the land use for green belt and other uses.
13. List of products alongwith the production capacities.

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14. Detailed list of raw material required and source, mode of storage and transportation.
15. Manufacturing process details alongwith the chemical reactions and process flow chart.
16. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
17. Ambient air quality monitoring at 6 locations within the study area of 5 km., aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
18. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM_{10}, $PM_{2.5}$, SO_2, NOx including HC and VOCs should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
19. Air pollution control measures specifically suggested by the Committee as Bagfilter to be installed for the effective control of gaseous emissions within permissible limits.
20. Name of all the solvents to be used in the process and details of solvent recovery system.
21. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
22. Details of water and air pollution and its mitigation plan
23. Action plan to control ambient air quality as per NAAQES Standards notified by the Ministry on 16th September, 2009.
24. An action plan to control and monitor secondary fugitive emissions from all the sources.
25. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
26. Source and permission for the drawl of total 397.5 m^3/day water from the competent authority. Water balance chart including quantity of effluent generated recycled and reused and discharged. Efforts shall be made to reduce ground water drawl.
27. Action plan for 'Zero' discharge of effluent should be included.
28. Ground water quality monitoring minimum at 6 locations should be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
29. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste.
30. Action plan for the management of fly ash generated from boiler should be included. Tie-up or agreement with brick manufacturer to be provided.
31. Precautions to be taken during storage and transportation of hazardous chemicals should be clearly mentioned and incorporated.
32. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they will utilized all the organic solid waste generated.
33. A copy of 'Memorandum of Understanding' (MoU) signed with coal supplier for imported coal and brick manufacturers for management of fly ash.
34. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.

35. Material Safety Data Sheet for all the Chemicals are being used/will be used. CAS No./RTECS No./DOT/UN etc to be mentioned against each chemicals.
36. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
37. Risk assessment for storage for chemicals/solvents. Action plan for handling & safety system.
38. An action plan to develop green belt in 33 % area. Layout plan for green belt shall be provided.
39. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
40. Details of occupational health programme.
    - I. To which chemicals, workers are exposed directly or indirectly.
    - II. Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
    - III. What measures company have taken to keep these chemicals within PEL/TLV.
    - IV. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
    - V. What are onsite and offsite emergency plan during chemical disaster.
    - VI. Liver function tests (LFT) during pre-placement and periodical examination.
    - VII. Details of occupational health surveillance programme.
41. Socio-economic development activities should be in place.
42. Note on compliance to the recommendations mentioned in the CREP guidelines.
43. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
44. EMP should include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
45. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
46. A tabular chart with index for point wise compliance of above TORs.

B. Additional TOR

1. Public hearing to be conducted by SPCB and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
2. CRZ clearance to be obtained

The following general points shall be noted:

i. All documents shall be properly indexed, page numbered.
ii. Period/date of data collection shall be clearly indicated.
iii. Authenticated English translation of all material provided in Regional languages.
iv. The letter/application for EC shall quote the MOEF file No. and also attach a copy of the letter.

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v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
vi. The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

3.0 These 'TORs' should be considered for the preparation of EIA / EMP for Bulk Drug Manufacturing Unit Plot/Survey Nos. 447, 450-52, 455 to 476, 482 to 510 at Village Ontimamidi (Kona), Mandal Thondangi, District East Godavari, Andhra Pradesh by M/s Divi's Laboratories Unit (Unit IV) in addition to all the relevant information as per the 'General Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The EIA/EMP as per TORs should be submitted to the Chairman, Andhra Pradesh State Pollution Control Board, for public consultation. The SPCB shall conduct the public hearing/public consultation as per the provisions of EIA notification, 2006.

4.0 You are requested to kindly submit the final EIA/EMP prepared as per TORs and incorporating all the issues raised during Public Hearing / Public Consultation to the Ministry for considering the proposal for environmental clearance ***within 3 years as per the MoEF O.M. No. J-11013/41/2006-IA.II (I) dated 8th October, 2014***.

5.0 The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India / National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc.

(Lalit Bokolia)
Additional Director

Copy to : 1. The Chairman, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, A-III, Industrial Estate, Sanath Nagar, Hyderabad, Andhra Pradesh

2. Chief Conservator of Forests (South), Ministry of Environment & Forests, Regional Office, Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Banglore-560034

(Lalit Bokolia)
Additional Director

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VISAKHAPATNAM

Villagers demand halt to Divis expansion

SPECIAL CORRESPONDENT

VISAKHAPATNAM:, FEBRUARY 23, 2016 00:00 IST
UPDATED: FEBRUARY 23, 2016 05:48 IST

Hundreds of villagers from Bheemunipatnam mandal gathered at the Collectorate on Monday and raised slogans demanding that the expansion works of Divi's Laboratories Limited be stopped immediately. They were also seeking jobs for locals in the existing plant.

The villagers, under the banner of the CPI(M), raised slogans seeking protection from pollution and an immediate halt to the expansion works.

The pollution caused from Divi's Labs was leading to health problems in 17 villages of four panchayats in the mandal. The underground drinking water sources had become polluted and in some villages the water was not even fit for washing and cleaning due to oil and grime. Rheumatic pains, kidney problems, nervous problems, TB and eye diseases were rampant in the affected villages. Yield from farms and palm trees declined due to pollution. This resulted in migration of farmers from the affected villages.

The speakers alleged that the company management was using police force to suppress them. They found fault with the management for not employing locals though there were a good number of youths from the affected-villages who had the requisite qualification.

The major demands of the protesters include provision of permanent jobs, implementation of labour laws, spending of 2 per cent of profits on development of affected villages and provision of alternative employment to fishermen of Annavaram village who lost their livelihood due to pollution of coastal waters, and conduct of medical camps in the affected villages.

CPI(M) State secretariat member Ch. Narasinga Rao, district secretary K. Lokanadham, YSRC district president Amarnadh, MLC M.V.S. Sarma, CPI(M) Bheemili Division secretary R.S.N. Murthy, Divi's Struggle Committee leader Ravva Narasinga Rao, and AIDWA president B. Prabhavathi were among those who addressed the gathering.

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APPENDIX I

(See Paragraph-6)

FORM 1

Note : If space provided against any parameter is inadequate, Kindly upload supporting document under 'Additional Attachments if any' at the last part of the Form1. Please note that all such Annexures must be part of single pdf document.

(I) Basic Information

S.No.	Item	Details
	Is your project Comes under Notified Industrial Area	NA
	Whether proposal involved violation of EIA notification	N/A
	Weather Consent to Establishment Obtained	N/A
	Upload copy of CTE	N/A
1.	Name of the Project/s	M/s Divi's Laboratories Limited, Krishnapatnam Industrial Area
	Brief summary of project	Annexure-Brief summary of project
	Proposal Number	IA/AP/IND2/72386/2018
	Project Cost	15000 lacs
2.	S. No. in the schedule	5(f) Synthetic organic chemicals industry (dyes & dye intermediates; bulk
	Project Sector	Industrial Projects - 2
3.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number or wells to be drilled	10483 MTA ha.
4.	New/Expansion/Modernization	New
5.	Existing Capacity/Area etc.	0 ha.
6.	Category of project i.e. 'A' or 'B'	A
7.	Does it attract the general condition? If yes, please specify	No
8.	Does it attract the specific condition? If yes, please specify	No
9.	Location of the project	Kothapatnam Village, Kota Mandal, SPSR Nellore District, Andhra Pradesh
	Shape of the project land	Block (Polygon)
	Uploaded GPS file	Annexure-GPS file
	Uploaded copy of survey of India Toposheet	Annexure-Survey of india toposheet
	Plot/Survey/Khasra No.	397, 401, 402, 403, 446, 676, 681, 682, 683, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709
	Town / Village	Kothapatnam
	State of the project	Andhra Pradesh

Details of State of the project

S.no	State Name	District Name	Tehsil Name

(1.)	Andhra Pradesh	Nellore	Kota
10.	Nearest railway station along with distance in kms	Venkatachalam, 26 km	
	Nearest airport along with distance in kms	Sri Venkateswara airport Renigunta, 84 km	
11.	Nearest Town/City/District Headquarters along with distance in kms	Nellore , 33 km	
12.	Village Panchayats, Zila Parishad, Muncipal Corporation, Local body (Complete postal address with telephone nos. to be given)	Kothapatnam Village (Village Panchayat), Kota Mandal, Gudur Taluka, SPSR Nellore District, Andhra Pradesh Telephone no. 08922-248911	
13.	Name of the Applicant	Madhusudhan	
14.	Registered Address	DIVIS LABORATORIES LIMITED,7-1-77/E/1/303, DIVI TOWERS, DHARAM KARAN ROAD	
15.	**Address for correspondance:**		
	Name of the Company	DIVIS LABORATORIES LIMITED	
	Name of the Applicant	Madhusudhan	
	Designation (Owner/ Partner/ CEO)	Director(Projects)	
	Pin code	531162	
	E-mail	raodivi@divislaboratories.com	
	Telephone No.	8922-248911	
	Fax No.	8922-8922248922	
	Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency .	Annexure-Uploaded Copy of documents in support of the competence/authority	
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet	Yes	
	Uploaded details	Annexure-Uploaded details	
17.	Whether part of Interlinked projects?	No	
18.	Whether separate application of Interlinked project has been submitted?	N/A	
19.	If Yes, MoEF file number	N/A	
	Date of submission	N/A	
20.	If No, Reason	N/A	
21.	**Whether the proposal involves Approval/ Clearance under: if yes, details of the same and their status to be given**		
	(i) Whether the proposal involves approval/clearance under the Forest (Conservation) Act,1980?	No	
	(ii) Whether the proposal involves approval/clearance under the wildlife (Protection) Act,1972?	No	
	(iii) Whether the proposal involves approval/clearance under the C.R.Z notification, 2011?	Yes	
22.	Whether there is any Government Order/Policy relevant/relating to the site?	No	
23.	Whether any Forest Land Involved?	No	
	Area of Forest land Involved (hectares)	N/A	
24.	Whether there is any litigation pending	No	

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	against the project and/or land in which the project is proposed to be set up?	
	(a) Name of the Court	N/A
	(b) Name of the Sub court	N/A
	(c) Case No.	N/A
	(d) Orders/directions of the court, if any and relevance with the proposed project	N/A

(II) Activity

1 Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	The total land area specified for new construction/ development of the proposed project is around 81.74 Ha (202 Acres), of which around 20% will be developed for building and construction which will undergo some temporary to permanent changes.
1.2	Clearance of existing land, vegetation and buildings?	Yes	The land area of the project site is mostly barren with grasses, open shrubs and other scanty mixed vegetation. There is no habitation/building in/at selected land for new construction Existing vegetation will have to be cleared as per the requirement specified in layout. However, compensation for trees removed will be covered by developing green belt.
1.3	Creation of new land uses?	Yes	The land allotted for proposed project will gradually undergo changes during construction until the proposed drug manufacturing unit is established. The newly developed land would be more beneficial with improved infrastructural facilities, community and greenbelt development.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Necessary soil investigations will be carried out before construction.
1.5	Construction works?	Yes	All facilities of industrial operations, storage facilities, administration buildings, parking facilities, other necessary infrastructure etc., will be constructed as specified in the layout
1.6	Demolition works?	No	No demolition works are envisaged
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	Temporary structures will be made essentially to meet the needs of construction, manpower and machinery deployed, which will be demolished later
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations and fill or excavations	Yes	Major construction would involve erection of structures for industrial manufacturing and operations, service/office buildings, storage areas, internal roads, etc. These activities will be kept minimum and localized based on the plant design conditions
1.9	Underground works including mining or tunnelling?	No	No mining or tunneling works required.
1.10	Reclamation works?	Yes	Applicable but minor
1.11	Dredging?	No	No dredging activities are required
1.12	Offshore structures?	No	Only supporting structures for effluent discharge pipe

			line
1.13	Production and manufacturing processes?	Yes	The production and manufacturing process of APIs & intermediates involves various raw materials, where chemical reactions will take place involving various stages like precipitation, substitution, addition, centrifugation, purifications, solvent recovery, etc
1.14	Facilities for storage of goods or materials?	Yes	Storage facilities will be created for storing various raw materials, finished products, fuels, etc.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Facilities will be installed for appropriate handling of liquid, solid and gaseous wastes.
1.16	Facilities for long term housing of operational workers?	Yes	Dormitories for bachelors are envisaged.
1.17	New road, rail or sea traffic during construction or operation?	Yes	Laying of internal roads will be taken up. The proposed site is directly accessible to Mannegunta-Kothapatnam Road and is connected to NH 16 (earlier NH 5) – 25 km SW
1.18	New road, rail, air water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	Existing roads will be strengthened and improved for the transport of raw materials
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	No closure or diversion of existing transport routes or infrastructure is foreseen
1.20	New or diverted transmission lines or pipelines?	Yes	Transmission lines may be required for power supply. Pipelines will be laid for discharge of treated effluents into the sea
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not applicable Proposed site does not have any water body, this requirement does not arise.
1.22	Stream crossings?	No	There are no streams in the proposed site.
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	Required water will be met through Surface water and bore wells.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	Not envisaged
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation of construction materials and personnel will be by road. Workers from nearby villages and town will be engaged.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not applicable
1.28	Influx of people to an area in either temporarily or permanently?	Yes	Around 2200 (1000 supervisory and 1200 non-supervisory) people are expected to flow during construction and operational phases of the project and hence the influx of people will be both temporarily and permanently.
1.29	Introduction of alien species?	No	No introduction of alien species.
1.30	Loss of native species or genetic diversity?	No	The construction activities do not involve any actions resulting in loss of native species and genetic diversity.
1.31	Any other actions?	No	Not envisaged

2	**Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**		

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S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	Yes	Around 81.74 Ha (202 Acres) land has been identified for the proposed industry, which is barren. No perennial water channels or water bodies are flowing in the proposed site.
2.2	Water (expected source & competing users) unit: KLD	Yes	The total water requirement for the project is around 3200 KLD. Source: Ground water through bore wells, pipe lines from nearest surface water bodies
2.3	Minerals (MT)	No	No mineral requirement is envisaged for the proposed project.
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Construction material such as sand, steel, aggregates etc will be used. These materials will be sourced from the nearest market
2.5	Forests and timber (source – MT)	No	Not envisaged
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT),energy (MW)	Yes	The total power requirement of around 35 MW. It will be acquired from APTRANSCO. In case of power failure, the backup power supply is through DG sets.
2.7	Any other natural resources (use appropriate standard units)	Yes	Coal for Coal fired boiler

3 Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies	Yes	Chemicals like acids, alkalies, solvents, etc. will be used for manufacturing of APIs & intermediates under controlled conditions.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	The products manufacturers are API & intermediates through the new project. Hence, occurrences of disease are not envisaged nor there will be any effect on disease vectors due to the proposed project activities.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Socio-economic conditions will improve and will have positive impact due to increasing livelihood options for people of nearby areas.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	There is no effect envisaged on the vulnerable groups of people who could be affected by the project. All the pollution control norms will be strictly followed with respect to air, water, noise and soil related environmental changes.
3.5	Any other causes	No	Not envisaged.

4 Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with

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			source of information data
4.1	Spoil, overburden or mine wastes	Yes	Minor quantities of overburden and excavated soil obtained during site clearance and construction activities will be stored and will be used for backfilling/leveling of earth surface for developing roads, plantation and greenbelt development etc.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Solid waste generated will be treated and handled on-site as per the MSW Rules, 2016. Municipal waste generated from the sanitary waste treatment unit will be used as organic manure in green belt development within the site.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	The hazardous waste generated from the proposed production will include process residues, ETP salts, ETP sludge, used catalysts, used batteries, etc., will be quantified with respective units and will be disposed as per the hazardous & other waste management and handling rules, 2016.
4.4	Other industrial process wastes	No	There will not be any other industrial process wastes generated other than the wastes mentioned above, under section 4.2 and 4.3.
4.5	Surplus product	No	Production will be done as per the demand in the market. Hence no surplus product is envisaged.
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Effluent treatment plant sludge will be sent to the nearest TSDF. Sewage sludge will be used as manure for greenbelt development within the site.
4.7	Construction or demolition wastes	Yes	In general, minor quantities of C&D waste would be generated which will be utilized within the proposed site.
4.8	Redundant machinery or equipment	No	Not applicable
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	Yes	Fly ash from boilers shall be send to brick, cement and tile manufacturing units etc., Bottom ash will be sent for leveling of low lying areas and to concrete mixers.

5 Release of pollutants or any hazardous, toxic or noxious substances to air(Kg/hr)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Coal as fuel will be used for boiler and Diesel for DG sets respectively. Necessary control measures like installation of stack with prescribed dimensions will be taken up as per MoEF&CC guidelines.
5.2	Emissions from production processes	Yes	The major process emissions are carbon dioxide, ammonia and acids etc. Necessary air pollution control devices such as scrubbers, exhaust vent etc., and other pollution control measures such as green belt development will be provided.
5.3	Emissions from materials handling including storage or transport	Yes	Very minimal emissions are expected during storage and transport. All necessary precautions like wetting of roads, development of thick green belt, proper closure of stored and transported materials etc., will be taken

			as per industry guidelines to minimize fugitive dust emissions.
5.4	Emissions from construction activities including plant and equipment	Yes	Very minimal emissions are expected during construction activities. All necessary precautions as discussed in earlier sections including dust suppression measures will be taken to avoid/minimize emissions.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Necessary controls will be adopted to protect ambient air from dust and odors. Adequate green belt will be developed.
5.6	Emissions from incineration of waste	Yes	Incinerator with scrubber and a stack height meeting MoEF&CC guidelines and standards will be provided for proper dispersion of emissions.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No material will be burnt openly in air.
5.8	Emissions from any other sources	No	Not envisaged

6 Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Noise will be generated during operation of incinerator, boiler & DG sets etc. Necessary acoustic enclosures will be provided in blower and compressor houses to suppress and maintain the noise levels within the prescribed norms. Necessary PPEs (ear muffs) will be provided for the personnel working in the area. Vibration is not a significant factor since most of the equipment and structures of industrial operation are static. The vibration effect of these will be localized and the design of supp
6.2	From industrial or similar processes	Yes	As discussed in section 6.1.
6.3	From construction or demolition	Yes	Necessary controls as discussed will be adopted.
6.4	From blasting or piling	No	Not applicable
6.5	From construction or operational traffic	Yes	There will be generation of noise and vibration during the plant operations. But this noise and vibration will be site specific and will not be transmitted outside the plant premises. The noise levels will be below the permissible limit owing to the green belt around the plant premises.
6.6	From lighting or cooling systems	No	Noise, vibration, heat and intensity of light will be negligible from the lighting and cooling systems.
6.7	From any other sources	No	Not envisaged

7 Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of	Yes	The liquid raw materials will be stored in storage tanks

	hazardous materials		in specific storage areas with dykes. Lime will be stored in lime shed with concrete flooring. All other hazardous materials will be temporarily stored in drums/tanks/barrels, and later shifted to incineration or secured landfill for disposal. Hence, there is no chance of contamination of water streams and land.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	The effluents will be generated from plant operations (low TDS) and domestic activities. Domestic waste will be treated in STP and recycled for greenbelt development and flushing the toilets. Industrial wastewater will be treated in the proposed ETP to meet the coastal discharge standards and then discharged in to the sea. High TDS wastewater will be treated in evaporation system.
7.3	By deposition of pollutants emitted to air into the land or into water	Yes	Pollutants/emissions are expected from point source, area source and fugitive dust. Necessary control measures will be provided for controlling pollutants/emissions to meet MoEF&CC standards as already discussed.
7.4	From any other sources	No	Not applicable
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	No long term build-up of pollutants is expected. All pollution control measures will be adopted. An approved Environmental Management Plan (EMP) will be followed to ensure minimal pollution in the environment.

8 Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	Yes	Only minimum quantity of chemicals will be stored in the plant premises. Spillages and fires will be handled by trained emergency handling teams for minimum damage. Necessary protective equipment for emergency situations will be provided as per OHSAS
8.2	From any other causes	No	Not envisaged.
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	Yes	The project area falls under seismic zone III as per the Seismic Zoning Map of India (BIS: 1893-2002), which means that the area is under moderate risk of earthquakes. However, the project location is prone to cyclones. Therefore, all necessary control measures including cyclone resistant structures, proper compound walls, selection of adequate greenbelt etc. will be taken to minimize the damage in the event of such hazard.

9 Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting utilities, ancillary development or development	Yes	The proposed project will have a positive impact on the overall development of the nearby villages and the

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	stimulated by the project which could have impact on the environment e.g.: ○ Supporting infrastructure (roads, power supply,waste or waste water treatment, etc.) ○ housing development ○ extractive industries ○ supply industries ○ Other		region in respect to the following: • Supporting infrastructure viz. roads, power supply, water, schools, hospitals, etc will be developed. • Demand for housing will increase. • Direct and indirect employment will be generated leading to social benefits. • Demand for supply industries will also increase creating an ecosystem of industrialization of the region thereby leading to holistic
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not Envisaged. The proposed project is going to be in operation for long term
9.3	Set a precedent for later developments	Yes	• Development of local community • Improvement in quality of life • Ecological balance by sustainable development
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not Envisaged

(III) Environmental Sensitivity

S.No	Areas	Name/Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	Not envisaged
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Buckingham Canal – 0.4 km W Coastal Belt – 2.1 km E Upputeru River – 8.6 km NW Yeruru Cheruvu – 8.9 km W Swarnamukhi River – 9.7 km S Pennaki Cheruvu – 11.9 km SW
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	None in the study area Kottapatnam RF – Adjacent S RF (Near Kottapatnam RF) – 1.2 km E RF (Near Kottapatnam RF) – 1.9 km ESE Momidi RF – 2.9 km W RF (Near Kottapatnam RF) – 3.7 SSE Tammenapatnam RF - 4.8 km N Ipuru RF – 8.3 km N Udatavaripalem RF – 11.4 km SW Vallipedu RF - 12.6 km SW
4	Inland, coastal, marine or underground waters	Yes	Marine water body Coastal Belt (Bay of Bengal) – 2.1 km E
5	State, National boundaries	No	Not Applicable
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Yes	Mannegunta- Kothapatnam Road is adjacent to site in south direction and NH 16 (earlier NH 5) – 25 km SW
7	Defence installations	No	None in the study area within 15 km radius
8	Densely populated or built-up area	Yes	Kota mandal headquarters 15 km SW
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	Schools, Worship places, hospitals/dispensaries community facilities are available in the nearby villages.
10	Areas containing important, high quality or scarce resources.(ground water resources,surface resources,forestry,agriculture,fisheries,tourism,minerals)	Yes	Buckingham Canal – 0.4 km W Coastal Belt – 2.1 km E Upputeru River – 8.6 km NW Yeruru Cheruvu – 8.9 km W Swarnamukhi River – 9.7 km S Pennaki Cheruvu – 11.9 km SW

			Aquaculture is usually practiced within 10 km radius of the project site. Kottapatnam RF – Adjacent S RF (Near Kottapatnam RF) – 1.2 km E RF (Near Kottapatnam RF) – 1.9 km ESE Momidi RF – 2.9 km W RF (Near Kottapatnam RF) – 3.7 SSE Tammenapatnam RF - 4.8 km N Ipuru RF – 8.3 km N Udatavaripalem RF – 11.4 km SW Valliped
11	Areas already subjected to pollution or environmental damage.(those where existing legal environmental standards are exceeded)	No	Not envisaged
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	Yes	The project area falls under seismic zone III as per the Seismic Zoning Map of India (BIS: 1893-2002), which means that the area is under moderate risk of earthquakes. However, the project location is prone to cyclones. Therefore, all necessary control measures including cyclone resistant structures, proper compound walls, selection of adequate greenbelt etc. will be taken to minimize the damage.

(IV) Proposed Terms of Reference for EIA studies

1	**Uploaded Proposed TOR File**	Annexure-TOR file
2	**Uploaded scanned copy of covering letter**	Annexure-scanned copy of covering letter
3	**Uploaded Pre-Feasibility report(PFR)**	Annexure-PFR
4	**Uploaded additional attachments(only single pdf file)**	Annexure-Additional attachments

Essential Detail Sought:

Sno.	EDS Letter	Remarks	Date of EDS
1.	Eds Letter	The correction have been made as per the instruction received	25 Jan 2018
2.	NA	Please clarify whether it is a Category A or B project. As the Form-1 says Category B whereas the covering letter mentions Category A.	25 Jan 2018

Additional Detail Sought : NIL

(V) Undertaking

I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost.

V. (i)	**Name of Applicant**	Madhusudhan
	Designation	Director(Projects)
	Name of Company (Applicant Name should not be given here)	DIVIS LABORATORIES LIMITED
	Address	DIVIS LABORATORIES LIMITED,7-1-77/E/1/303, DIVI

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TOWERS, DHARAM KARAN ROAD

Print

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Divi's Laboratories Limited

Lr. No: DLL-2/0318/25

Date: 21.03.2018

To,
Additional Director, (Industrial Projects -2)
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhavan,
Aligangh, Jorbagh Road,
New Delhi – 110 003.

Dear Sir,

Sub: M/s.Divis Laboratories Limited, Krishnapatnam Industrial Area, Nellore, Andhra Pradesh – Issue of TOR for obtaining Environmental Clearance – Change of address - Reg

Ref: 1. Proposal No: IA/AP/IND2/72386/2018,
2. TOR No IA-J-11011/34/2018-IA-II (I) dated 19th Mar 2018.

x.x.x.x

We M/s. Divis Laboratories Limited are proposing for establishment of Bulk Drugs & Intermediates manufacturing unit at Krishnapatnam Industrial Area, Kothapatnam (V), Kota (M), SPSR Nellore (D), Andhra Pradesh and submitted Form 1 application online in MOEFCC website portal and the proposal number was allotted as IA/AP/IND2/72386/2018 and Standard TOR and Specific TOR issued vide letter no TOR No IA-J-11011/34/2018-IA-II (I) dated 19th Mar 2018 and kept in the MOEFCC website.

We like to inform that the TOR letter is addressed to Divis Laboratories Limited, Chippada (V), Bheemunipatnam (M), Visakhapatnam, Andhra Pradesh, 531162 kindly do the needful in changing the address as Krishnapatnam Industrial Area, Kothapatnam (V), Kota (M), SPSR Nellore (D), Andhra Pradesh.

Thanking you,

Yours faithfully
M/s Divis Laboratories Limited.

Rao M Divi.
Director - Projects

FACTORY : Unit-2, Chippada Village, Annavaram Post, Bheemunipatnam Mandal, Visakhapatnam District, Andhra Pradesh-531 162, INDIA.
Ph. : +91-8922-248911. Fax : +91-8922-248922.
CORPORATE OFFICE : 1-72/23(P) / Divis / 303, Divi Towers, Cyber Hills, Gachibowli, Hyderabad-500 032, Telangana, India. CIN : L24110TG1990PLC011854
Ph. : +91-40-23786300, 23786400, Fax : +91-40-23786460, E-mail : mail@divislaboratories.com, Website : www.divislaboratories.com

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Divi's Laboratories Limited

Lr. No: DLL-2/0318/24

Date: 21.03.2018

To,
Additional Director, (Industrial Projects -2)
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhavan,
Aligangh, Jorbagh Road,
New Delhi – 110 003.

Dear Sir,

Sub: M/s.Divis Laboratories Limited, Krishnapatnam Industrial Area, Nellore, Andhra Pradesh – Issue of TOR for obtaining Environmental Clearance – Marine Outfall – **Request for amendment** -Reg.

Ref: 1. Proposal No: IA/AP/IND2/72386/2018,
2. TOR No IA-J-11011/34/2018-IA-II (I) dated 19th Mar 2018.

x.x.x.x

We M/s. Divis Laboratories Limited are proposing for establishment of Bulk Drugs & Intermediates manufacturing unit at Krishnapatnam Industrial Area, Kothapatnam (V), Kota (M), SPSR Nellore (D), Andhra Pradesh and submitted Form 1 application online in MOEFCC website portal and the proposal number was allotted as IA/AP/IND2/72386/2018 and Standard TOR and Specific TOR issued vide letter no TOR No IA-J-11011/34/2018-IA-II (I) dated 19th Mar 2018 and kept in the MOEFCC website.

As per the Specific TOR point no 5 "Detailed effluent treatment scheme including segregation of effluent streams for units adopting Zero liquid discharge" Zero Liquid Discharge is mentioned. **But in our proposal we have requested for discharge of treated wastewater meeting sea discharge limits to be discharged into sea through a dedicated marine outfall.**

Hence we request the ministry to do the needful in allowing us to discharge the treated effluent after meeting sea discharges standards into the sea through marine outfall by providing an amendment to this effect and issue the revised TOR for preparation of Draft EIA report for conducting Public Hearing and submitting final EIA report to MOEFCC for obtaining Environmental Clearance.

Thanking you,

Yours faithfully
M/s Divis Laboratories Limited.

Rao M Divi.
Director - Projects

FACTORY : Unit-2, Chippada Village, Annavaram Post, Bheemunipatnam Mandal, Visakhapatnam District, Andhra Pradesh-531 162, INDIA.
Ph. : +91-8922-248911, Fax : +91-8922-248922.
CORPORATE OFFICE : 1-72/23(P) / Divis / 303, Divi Towers, Cyber Hills, Gachibowli, Hyderabad-500 032, Telangana, India. CIN : L24110TG1990PLC011854
Ph. : +91-40-23786300, 23786400, Fax : +91-40-23786460, E-mail : mail@divislaboratories.com, Website : www.divislaboratories.com

SANOZEN PHARMA PRIVATE LIMITED
Mfrs. Speciality Chemicals, Apis Bulk Drugs & Intermediates
Regd Off. # 65 Doyens Township, Serilingampally, HCU Road,
Hyderabad - 500019. Telangana India Mob : +91-9849399499
www.sanozenpharma.com Email : info@sanozenpharma.com

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ate: 18.04.2019

To
The Director, IA - II Division
Ministry Of Environment, Forest and Climate Change,
Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi - 110 003

Sub: Submission of EDS reply _ **Sanozen Pharma Private Limited** _ Expansion of existing Drug Intermediate Manufacturing Unit at Plot No: 170 ,171 &172 , Phase –II, IDA Pashamylaram, Patancheru (Mandal), Sangareddy (District), Telangana State _ Online application _ Terms of Reference(ToR) _ Regarding.

Ref: 1.Proposal No: IA/TG/IND2/100776/2019 &File No: IA-J-11011/126/2019-IA-II(I)
2. TOR online Application on 29/03/2019
3. EDS Dated 01/04/2019 & 09/04/2019
4. EDS Dated 11/04/2019

Dear Sir,

With reference to the above subject, we have received an EDS on 11/04/2019 stating that "**Please confirm that the proposed activities would be permitted by the SPCB in view of the existing orders of the Government** "

The Government has permitted to go for expansion for the existing Bulk Drug and Intermediates Manufacturing Units vide **G.O.Ms.No.64** dated **25-07-2013 says that "Provided that the expansion of production of all types of existing Bulk Drug and Bulk Drug Intermediate manufacturing units are permitted, subject to the installation of Zero Liquid Discharge (ZLD) facilities by such units**" (Copy Enclosed as **Annexure - 1**)

As our unit is an existing Intermediate manufacturing unit hence, we are eligible to go for expansion. Some units have obtained the EC for the Expansion in the same IDA from the SEIAA/SEAC- Telangana State. Now in the absence of the SEIAA/SEAC- Telangana State, we have submitted the application to MoEF &CC, GoI, New Delhi for grant of ToR.

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SANOZEN PHARMA PRIVATE LIMITED
Mfrs. Speciality Chemicals, Apis, Bulk Drugs & Intermediates
Regd. Off : # 65 Doyens Township, Serilingampally, HCU Road,
Hyderabad - 500019. Telangana India Mob : +91-9849399499
www.sanozenpharma.com Email : info@sanozenpharma.com

Hence, as per **G.O.Ms.No.64 dated 25-07-2013,** we (Sanozen Pharma Private Limited) confirm that "we are eligible for the proposed expansion of our existing intermediate manufacturing unit". Also we confirm that "we will install Zero Liquid Discharge System for the proposed expansion".

In view above our commitment, kindly consider our project for the Grant of Terms of Reference at the earliest.

Thanking You
Yours faithfully
for **Sanozen Pharma Private Limited**

J. Sanjeeva Reddy
Managing Director

Enclosure: As mentioned above

Works : Plot No. 170, Phase - II, IDA, Pashamylaram, Patancheru (Mandal),
Sangareddy (Dist) - 502 307. Telangana, India.

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Ban – Permanent Ban on Establishment of certain Polluting Industries in Medak, Ranga Reddy, Mahaboobnagar and Nalgonda Districts- Amendment Notification – Orders-Issued.

ENVIRONMENT, FORESTS, SCIENCE & TECHNOLOGY (ENV) DEPARTMENT

G.O. Ms. No. 64 **Dated: 25-07-2013.**
Read the following:-

1. G.O. Ms. No. 95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007.
2. Representation of Bulk Drug Manufacturer's Association (BDMA), Hyderabad to APPCB, dated 18-09-2012 and Government dated 16-07-2012.
3. Order of the Hon' ble Appellate Authority dated 20-10-2012.
4. Resolution No. 1949 of 130th Board Meeting of Andhra Pradesh Pollution Control Board, dated:04-12-2012.
5. Letter No.44144/PCB/PLG/2012-65, Andhra Pradesh Pollution Control Board, dated:03-04-2013.
6. Commerce Secretary, Government of India D. O. Letter No.15/36/2013/EP (Engg/Pharma). Dated 30-04-2013.

* * *

ORDER:

In the G.O. 1st read above, Ban was imposed on the establishment/expansion of certain categories of polluting industries in all the Industrial Estates/Industrial Development Areas and other industrial areas as mentioned in the Annexure to the notification and 1km around these industrial areas of Medak, Rangareddy, Mahaboobnagar and Nalgonda districts.

(2) . In the representation 2nd read above, the Bulk Drug Manufacturer's Association (BDMA), Hyderabad requested the APPCB to allow the expansion of existing Bulk Drug and its Intermediate Manufacturing Units with Zero Liquid Discharge Facilities and Industries who could send less contaminated non-process water such as domestic, cooling tower and boiler blow down to Common Effluent Treatment Plants (CETPs) and to consider pollution load at Point of Discharge instead of Point of Generation before installation of pollution control systems as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. They enumerated the improvements in the technology adopted by them such as Zero Liquid Discharge (ZLD) / Zero Process Liquid Discharge (ZPLD) process comprising of latest equipment such as Stripper, Multiple Effect Evaporator, Agitated Thin Film Drier (ATFD) and Reverse Osmosis (RO) etc, to control water pollution through considerable reduction in High Total Dissolved Solids (HTDS) discharges and also to bring down emission of gaseous substances mainly Volatile Organic Compounds (VOC) to control Air Pollution.

3) The Principal Secretary to Government, Industries and Commerce (CIP) Department offered his views on the present state of pollution control measures implemented by Bulk Drug and Bulk Drug Intermediates industrial units. Keeping the fact that Hyderabad attained the status as International Capital of Pharmaceutical industry, a level playing field is a dire necessity to maintain its leadership position without compromising on pollution control. As there is overall improvement in water pollution control measures adopted by the industry, a suggestion has been made to permit the increase in production capacity to enable them to compete in the international market and to assess the pollution load at the point of discharge.

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4) In the order 3rd read above, the Hon'ble A. P. Pollution Control Appellate Authority observed that there is much improvement in the environmental conditions after industries implemented better pollution treatment techniques and Ministry of Environment and Forests (MoEF) has lifted moratorium in establishment of industries in the earlier notified industries. Imposing ban or restrictions on the industries through Administrative Orders is not justifiable and such ban and restrictions are against the Statutory provisions under (Section 2, Rule 5) of Environment (Protection) Act, 1986. The Hon'ble Appellate Authority disposed the appeals filed by the Bulk Drug and Intermediate industries with the direction that the State Government shall take a decision on the representation made by the Bulk Drug Manufacturers Association in the light of the orders passed by MoEF and the Statutory position as explained above within three months from today.

5) In the resolution 4th read above, the Andhra Pradesh Pollution Control Board in its Resolution No.1949 of 130th Board meeting resolved to recommend to the Government, the recommendations of the High Level Expert Committee (HLEC) constituted to study the request of Bulk Drug Manufacturer's Association (BDMA) to amend the G. O. Ms. No.95, dated 21-09-2007. The Committee in their report stated that the requisite treatment facilities are in place and Ministry of Environment and Forests (MoEF), Government of India has withdrawn the moratorium in Patancheru – Bollaram area after implementation of Joint Action Plan. The High Level Expert Committee recommended to the Andhra Pradesh Pollution Control Board that the expansion of capacities could be considered subject to the availability of water resources, Ambient Air Quality including Volatile Organic Compounds (VOC), Capacity of Treatment, Storage and Disposal Facility (TSDF) & Common Effluent Treatment Plants (CETP's) and their performance and scope for using organic waste in cement plants for co-processing.

6) In the letter 5th read above, the Andhra Pradesh Pollution Control Board communicated the Agenda with minutes of the 130th Board meeting of Andhra Pradesh Pollution Control Board and the report of the High Level Expert Committee with their recommendations from the technical point of view. The Andhra Pradesh Pollution Control Board recommended the expansion of existing Industries on a case to case basis in relaxation of ban order issued vide G. O. 1st read above, based on legal advice. The recommendations of the Andhra Pradesh Pollution Control Board is based on four parameters namely (i) Availability of Water resources, (ii) Ambient air quality including Volatile Organic Compound (VOC) (iii) Capacity of Treatment, Storage and Disposal Facility (TSDF) & Common Effluent Treatment Plant (CETP) and their performance and (iv) Scope for using organic waste in cement plants for co-processing. The Andhra Pradesh Pollution Control Board recommended comprehensive Zero Liquid Discharge (ZLD) for large industries with effluent generation above 25 KLD and partial ZLD / common ZLD for small industries with effluent generation below 25 KLD of total effluent. The Andhra Pradesh Pollution Control Board recommendation includes the transportation of low TDS effluent generated by the industries to the Common Effluent Treatment Plants (CETPs), meeting the inlet standards stipulated by the Andhra Pradesh Pollution Control Board.

7) In the letter 6th read above, Commerce Secretary, Government of India stated that the share in exports of Drugs and Pharmaceutical Industry from A. P. State is about 35% of the total exports from the Country. He recommended for expansion of existing units subject to compliance of pollution control norms in order to give further boost to the exports from this sector.

8) The Learned Additional Advocate General, High Court of Andhra Pradesh in his letter dated 28-03-2013 has opined that the Government may

consider to amend the condition of restriction imposed on expansion of existing industries in G. O. Ms. No.95, dated 21-09-2007, so far as expansion of production of the existing units.

9) The Government, after careful examination of the matter, have decided to issue an amendment to the G. O. Ms. No.95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007 to enable the expansion of production of the existing Bulk Drug and Bulk Drug Intermediates manufacturing units only subject to the installation of Zero Liquid Discharge (ZLD) facilities by such units and to assess the Pollution load at the Point of Discharge, as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

10. Accordingly, the following notification will be published in the Extra-ordinary Issue of the Andhra Pradesh Gazette dated 25-07-2013:

NOTIFICATION

In exercise of the powers conferred by section 19 of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act No.6 of 1974) and section 19 of the Air (Prevention and Control of Pollution) Act, 1981 (Central Act No.14 of 1981) the Government of Andhra Pradesh on the recommendations of the A. P. Pollution Control Board, Hyderabad hereby makes the following amendment to the notification issued in G. O. Ms. No.95, Environment, Forests, Science & Technology (ENV) Department, dated: 21-09-2007.

AMENDMENT

In the said notification, after the existing Note, the following shall be added namely:-

"Provided that the expansion of production of all types of existing Bulk Drug and Bulk Drug Intermediate manufacturing units are permitted, subject to the installation of Zero Liquid Discharge (ZLD) facilities by such units and subject to the outcome of cases pending in the National Green Tribunal, Southern Zone, Chennai or in any other court. The Pollution load of industrial unit shall be assessed at the Point of Discharge, as provided in Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981."

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

M. SAMUEL
SPECIAL CHIEF SECRETARY TO GOVT.

To
The Commissioner, Printing, Stationary & Stores Purchase (Plg.wing), Chenchalguda, Hyderabad, with a request to publish the Notification in the next extra-ordinary issue of the Andhra Pradesh Gazettee, and furnish 200 copies of the same.
The Member Secretary, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, A - 3, Industrial Estate, Sanathnagar, Hyderabad.

Copy to:
All the Departments of Secretariat.
The Collectors of Medak, Rangareddy, Mahaboobnagar and Nalgonda districts.
The Commissioner of Industries, Chirag-ali-lane, Abids, Hyderabad.
The Director Agriculture, Andhra Pradesh, Hyderabad,

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The Commissioner, Information & Public relations Department,
Andhra Pradesh, Hyderabad.
The Commissioner, Environment Protection Training Research Institute
(E.P.T.R.I), Andhra Pradesh, Hyderabad,
The Chairman, Andhra Pradesh Transco, Somajiguda, Vidyuth Soudha,
Andhra Pradesh, Hyderabad.
The Prl. Secretary to Hon'ble Chief Minister.
P.S. to M (FES&T),
P.S. to Special Chief Secretary to Govt., E.F.S. & T. Dept.
All Senior Officers of Environment, Forests, Science & Technology
Department.
All Sections in Environment, Forests, Science & Technology Department.
The Law (B) Department.
SF / SC.

//Forwarded::By Order//

Section Officer

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INSPECTION REPORT

Date: 21.03.2020

To
The Joint Chief Environmental Engineer,
A.P. Pollution Control Board,
Zonal Office, Visakhapatnam.

Sir,

Sub: APPCB – VSP - M/s. Divi's Laboratories Limited, (Unit-II), Chippada (V), Annavaram (PO), Bheemunipatnam (M), Visakhapatnam District – Complaints received - Inspection report – Submitted – Reg.

Ref:
1. AP-TS, NGOs association, Warasiguda, Hyderabad represented by D. Anjayya, State President.
2. Complaint from Sri P. Madhavarao, Marripalem, Visakhapatnam City (CMO Office, RC.97/2019/CPO (PLG.III), dated 26.12.2019) received at RO, Visakhapatnam from, RO, Vizianagaram vide letter dated 26.02.2020.
3. Complaint from Divis Kalushya Baditula Sankshema Sangham, Pylapeta (V), Annavaram (P), Bheemili (M), Visakhapatnam District.
4. Inspection report dated 03.03.2020.

@@@

With reference to the above and as per the instructions, M/s. Divi's Laboratories Limited, (Unit-II), Chippada(V), Annavaram(PO), Bheemunipatnam (M), Visakhapatnam District was inspected by team consisting of Sri P. Ravindhra Nadh, SEE, Sri Veerendra Kumar, JSO, Zonal Lab, Visakhapatnam, Sri Sheik Subhan, AEE, Regional Office, Visakhapatnam and Sri Narappa Reddy, Analyst, Zonal Lab, Visakhapatnam on 02.03.2020.

3 no.s of complaints mentioned at reference 1, 2 & 3 above were verified. The details are submitted below.

1. AP-TS, NGOs association, Warasiguda, Hyderabad represented by Sri D. Anjayya, State President.

   The complainant resides in Hyderabad and was not contacted. However the main issue in the complaint is expanding the unit without conducting public hearing as required under EIA notification, 2006 and requested cancellation of all the permissions given for expansion.

The documents pertaining to EC were verified in the industry and it is noted that the industry obtained Environment Clearance from MoEF&CC, GoI and the details along with public hearing status are submitted below:

Sl. NO	EC No	Date	Production Qty (MTA)	Reson for obtaining EC	Public hearing status
1	J- 11011/54/ 2002/IA-II	23-12-2002	6388	To establish facility	Public hearing held on 20-02-2002
2	J- 11011/418/ 2006/IA-II(I)	10-10-2007	6025	Change in product mix	Public hearing was exempted as per section (para) II of the EIA notification 2006
3	J- 11011/316/ 2016/IA-II(I)	01-08-2017	6319.5	Modernization of the plant to include 108.59 acres of land without increasing production capacity	Public hearing was exempted under para of 7 (ii) of EIA notification 2006
4	SEIAA/AP/VSP /IND/03/2018 /528-1394	27-11-2018	10739.2	Product expansion	Public hearing was exempted under para of 7 (i) III. Stage (3) (i) (b) of EIA notification 2006

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Hence it is submitted that there is no violation w.r.t conduct of public hearing is noticed. Hence the same would be informed to the complainant. Hence the complainant may be treated as resolved.

2. Complaint from Sri P. Madhavarao, Marripalem, Visakhapatnam City (CMO Office, RC.97/2019/CPO (PLG.III), dated 26.12.2019)received at RO, Visakhapatnam from, RO, Vizianagaram vide letter dated 26.02.2020.

   The complainant Sri P. Madhavarao is a resident of Visakhapatnam city and was contacted at the address mentioned in the complaint i.e., H.No.38/33/124, Maripalem, Visakhapatnam city on 29.02.2020 and requested to accompany during the complaint verification, scheduled on 02.03.2020 and he informed that he is unable to attend and requested the Board to take necessary action based on the issues mentioned in the complaint and safeguard people in the surrounding villages from pollution.

3. Complaint from Divis Kalushya Baditula Sankshema Sangham, Pylapeta (V), Annavaram (P), Bheemili (M), Visakhapatnam District

   The issues mentioned in the complaint made by Sri P. Madhavarao and this complaint are same.

The Board Officials visited the villages Pylapeta, Annavaram, Kotha Gollapeta, Chippada, Gollapalem, Yerrayyapalem, Kothapeta and the Thudem and contacted Sri Pyla Suri Yerrayya, Pylapeta, President of "Divis Kalushya Baditula Sankshema Sangam" over phone and also contacted the following people directly during the complaint verification:

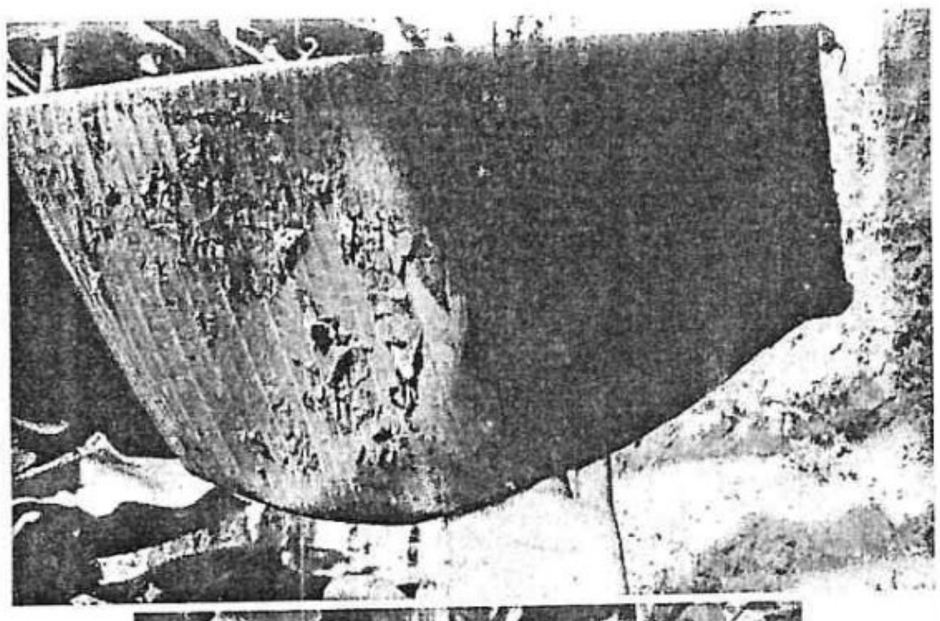
1. Sri Pyla Ramakrishna S/o Pyla Suri Yerrayya, Pylapeta Village.
2. Sri Y. Appala Narisayya, S/o Durgayya, Kothegollapeta Village.
3. Sri Duvva Rama Suri, Thudem Village.
4. Sri Pyla Srinivas, S/o Pyla Suri Yerrayya, Pylapeta Village.
5. Sri Samanuthal Ramu, Annavaram Village.
6. Sri M. Yellaji, Annavaram Village.
7. Sri Kanna Rao, Annavaram Village.

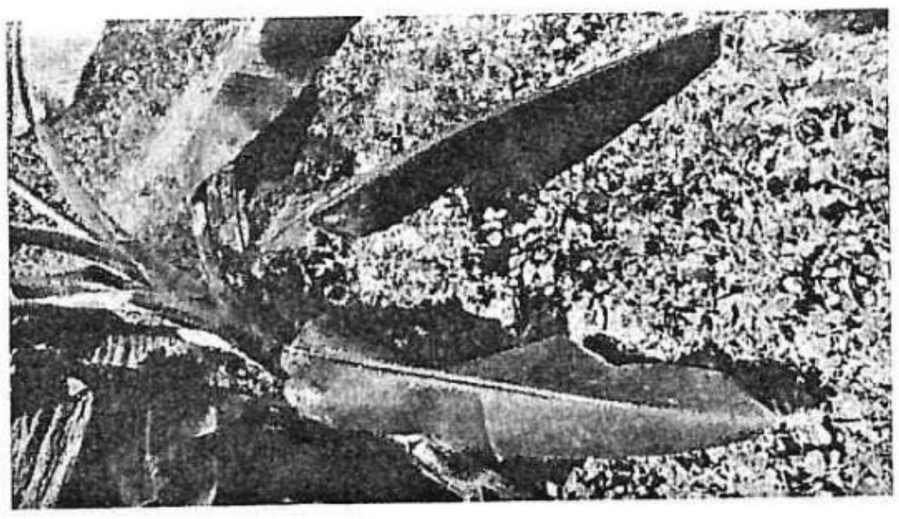
The complainants informed the following:

1. Facing severe air pollution and odour nuisance particularly during night times.
2. Decrease of crop yield since 3 to 4 years and soil contamination due to deposition of dust particulates emitting from M/s. Divis Labs.
3. Facing severe health problems viz., Kidney ailments, Breathing problems, Skin diseases, etc.,
4. Contamination of ground water in the villages thereby losing its potability.
5. Effluent pipeline leaks behind Village Secretariat, Annavaram Village leading to soil contamination.

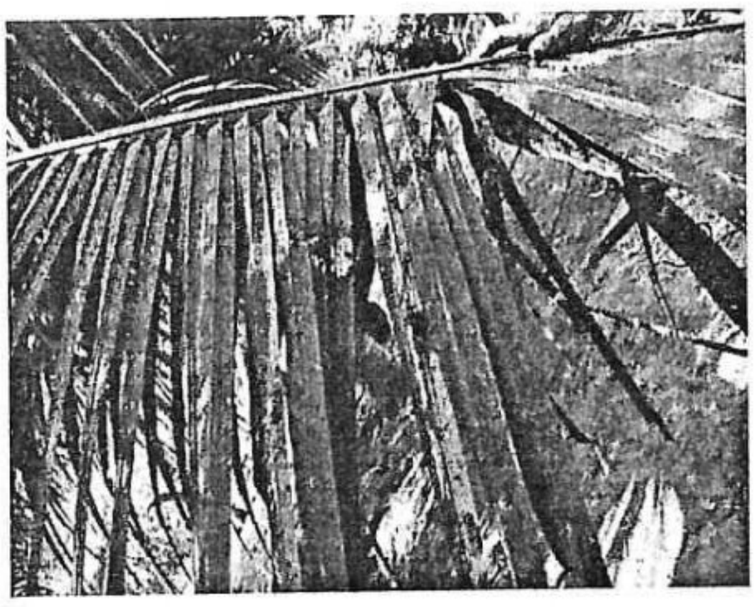
Observations:

1. Dust deposition was observed on the banana & coconut trees in Pylapeta and Thudem and other villages existing towards North-East, East & South-East directions of the industry.



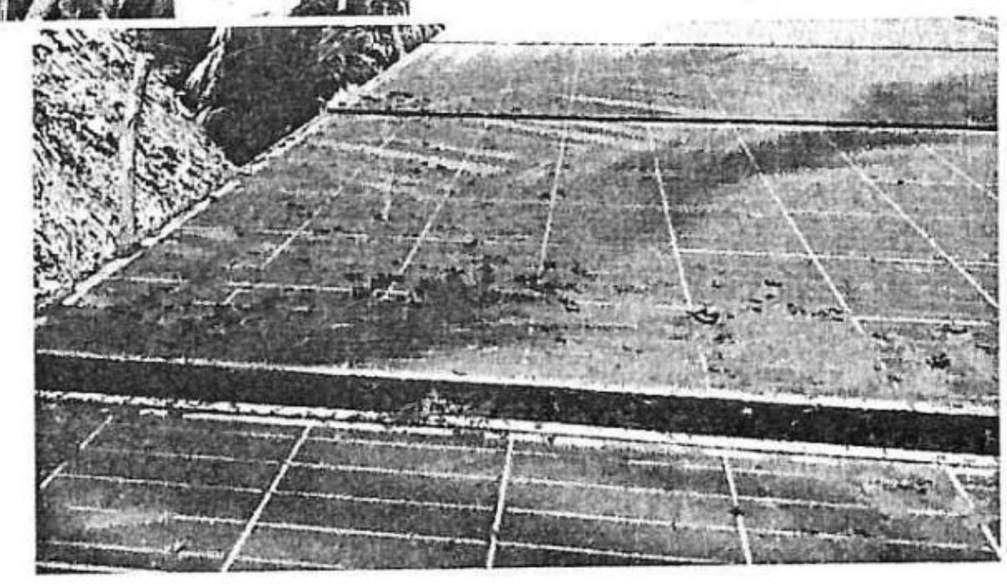




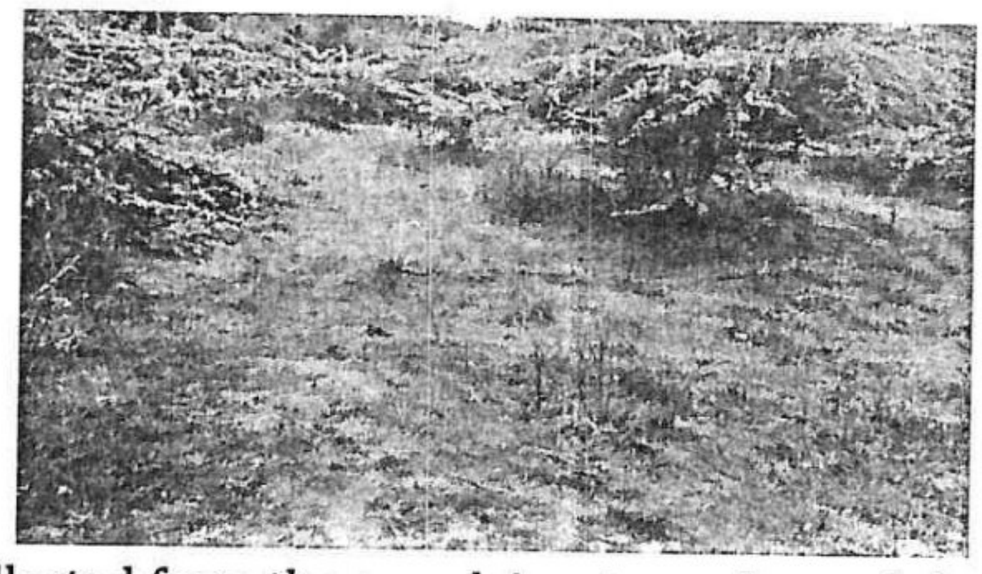








2. Dust particulates were observed to be deposited on the soil in gardens in these villages.
3. A patch of land behind Village Secretariat, Annavaram Village was observed to be with scaling indicating likely discharge of effluents. Soil sample was collected.



4. Soil sample was collected from the complainants garden and the depositions on the leaves was also collected for analysis. The analysis of the sample along with inference is submitted below :

A. Soil sample collected in the Banana plantation (Garden) of Mr. Pyla Suri Yerra, Pylapeta (V)
B. Soil sample at Annavaram (V) behind Village Secretariat (Where there is suspected discharge of effluent on land)
C. Dust sample accumulated on leaves and other surfaces

Sl. No.	Parameters	Units	A	B	C
1.	Physical State	--	Solid	Solid	Solid
2.	pH	--	6.91	7.74	8.94
3.	% Organic Carbon	%	0.36	1.82	12.38
4.	Loss on drying (LOD)	%	0.13	9.58	5.68
5.	Loss on ignition (LOI)	%	1.12	12.71	46.06
6.	Inference		Normal values	Indicating contamination	Indicating deposition of aerosols formed from soot & organic compounds

5. Ground water samples were collected from the following points in the complainant villages. The analysis are as follows :

A. Bore well sample at the residence of Mr. Pyla Suri Yerrayya, Pylapeta (V)
B. Bore well sample at the residence of Mr.Duvva Appanna, Kothagollapeta (V)
C. Bore well sample at Tudem Village
D. Hand Pump sample at Kothapet (V) (27/01)
E. Hand Pump sample at Annavaram (V), behind Village Secretriat.

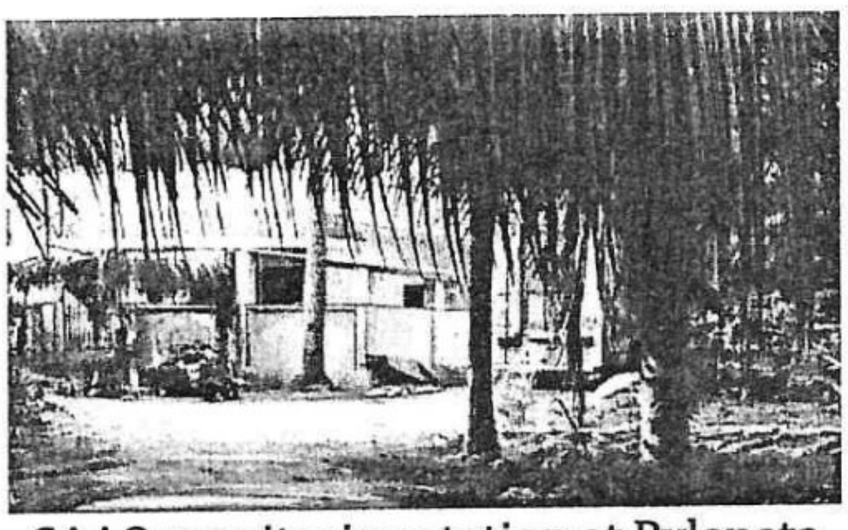
Sl. No	Parameters	A	B	C	D	E	IS 10500:2012 Standard	
							Acceptable limit	Permissible limit
1.	pH	7.21	7.43	7.53	7.50	6.87	6.5–8.5	NR
2.	Total Dissolved Solids at 105^{0}C	776	772	600	956	22016	500	2000
3.	Chemical Oxygen Demand	BDL	5.2	9.6	7.6	80	Nil	Nil
4.	Chlorides as Cl^-	58	85	29	268	7827	250	1000
5.	Total Hardness as $CaCO_3$	400	344	320	500	8460	200	600
6.	Total Alkalinity as $CaCO_3$	420	384	380	428	460	200	600
7.	Phosphates as PO_4^{3-}	BDL	BDL	0.54	BDL	0.05	--	--
8.	Sulphates as SO_4^{2-}	24	27	36	57	135.3	--	--
9.	Fluorides as F^-	0.78	1.12	0.85	1.02	0.81	1	1.5

10.	Nitrates Nitrogen as NO_3^-	99.5	66.3	21.3	29.1	9.80	45	NR
11.	Ammonical Nitrogen as NH_3-N	0.63	0.97	1.25	BDL	BDL	--	--
12.	Calcium as Ca^{+2}	41.9	36.0	50.5	92	1280	75	200
13.	Magnesium as Mg^{+2}	34	25.4	18.3	46.1	1278	30	100
14.	Sodium as Na^+	60.0	84.2	30.7	127.5	--	--	--
15.	Potassium as K^+	6.7	5.4	7.5	5.9	--	--	--
16.	Lead (as Pb)	BDL	BDL	BDL	BDL	BDL	0.01	NR
17.	Iron (as Fe)	0.056	0.041	0.059	0.10	0.56	0.3	NR
18.	Copper (as Cu)	BDL	BDL	BDL	BDL	BDL	0.05	NR
19.	Zinc (as Zn)	0.002	0.003	0.002	0.11	0.027	5	15
20.	Nickel (as Ni)	BDL	BDL	BDL	BDL	BDL	0.02	NR
21.	Chromium (as Cr)	BDL	BDL	BDL	BDL	BDL	0.05	NR
22.	Cadmium (as Cd)	BDL	BDL	BDL	BDL	BDL	0.003	NR
23.	Arsenic (as As)	0.001	BDL	0.001	BDL	BDL	0.01	0.05

6. Mobile CAAQM station was installed at Village Secretariat, Annavaram Village and manual AAQM monitoring was carried out at the villages Annavaram and Pylapeta. The analysis reports are enclosed.

Remarks:

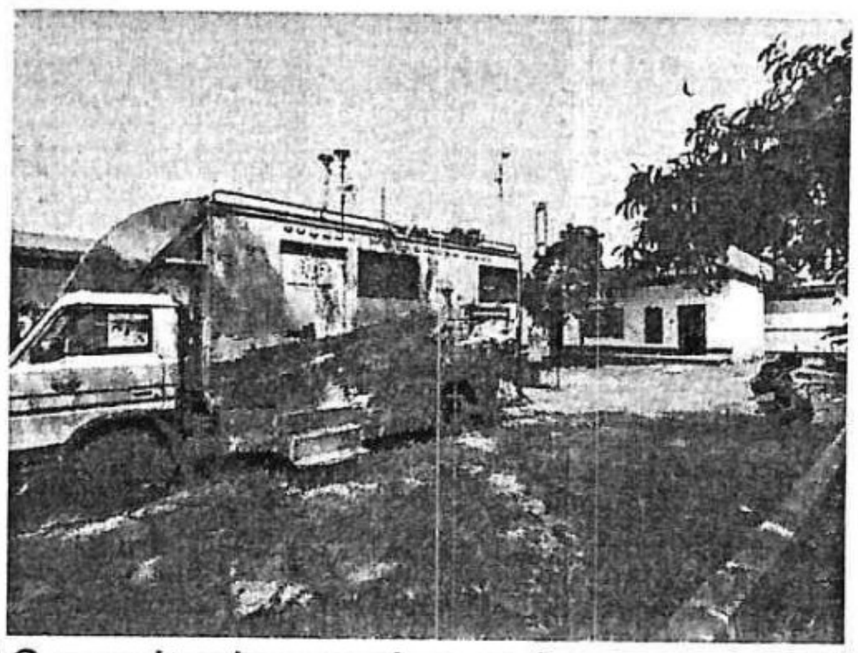
1. The maximum ground level concentrations due to stack emissions are being felt in the Pylapeta, Thudem, Kothagollapeta existing in North-East direction towards the location of Boilers of M/s. Divis Laboratories Limited., at distances ranging from approximately 800 to 1500 mts. Hence the soot deposition on the leaves of the trees and houses of these villages is more predominate than the other areas mentioned in the complaint.
2. These villages are falling at lesser distances from the production blocks and the impact due to scrubber emissions, if not controlled properly, is likely to be felt in these villages during windward time.
3. Annavaram Village is located between 200 mts to 500 mts towards east of the industry and the people are mostly complaining about severe odour nuisance and ground water contamination. The odour nuisance complained by the residents of Annavaram Village is likely due to ATFD vent. The ground water sample was collected from the bore well existing behind village secretariat, Annavaram Village. It is noted from the analysis report that it is having high COD, chlorides, Mild smell and bitter taste indicating contamination likely by organic compounds.
4. Chippada village mentioned in the complaint located in west direction at an aerial distance of around 2 KM from the process blocks and boiler. A hillock around 100mts height is existing towards north of the industry which is likely to act as a barrier in that direction. Hence the impact due to stack emissions and other process emissions is mostly felt in the villages existing in East and North east directions i.e., Annavaram (East), Pylapeta, Kothagollapeta, Kothapeta and Thudem (North east).
5. Continuous Ambient Air Quality monitoring was conducted by Mobile bus in Annavaram and Pylapet villages on 3rd and 4th respectively only during day time due to non availability of 3 phase current during the remaining period. The analysis reports are enclosed.



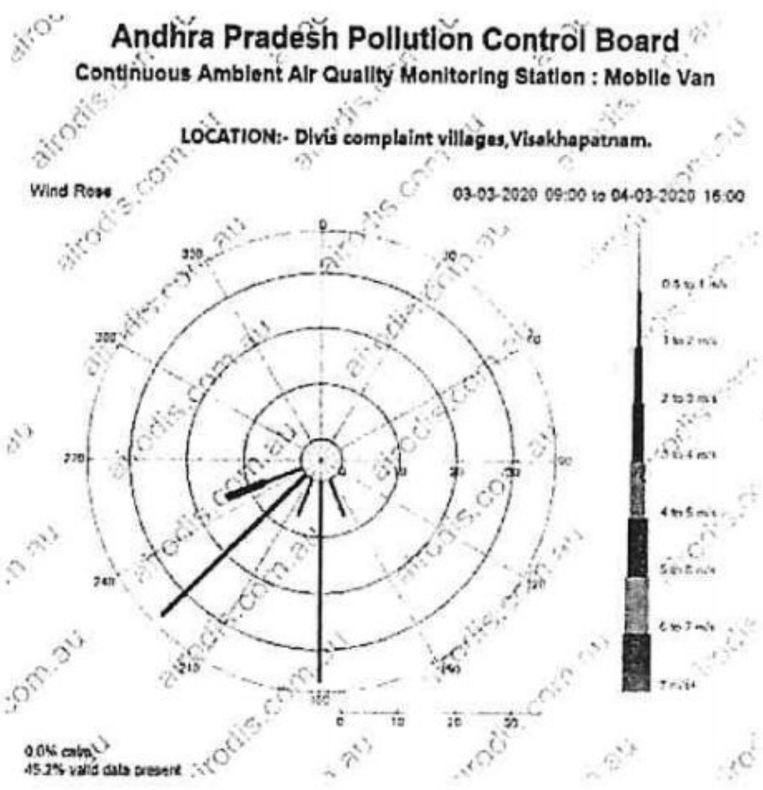
CAAQ monitoring station at Pylapeta Village

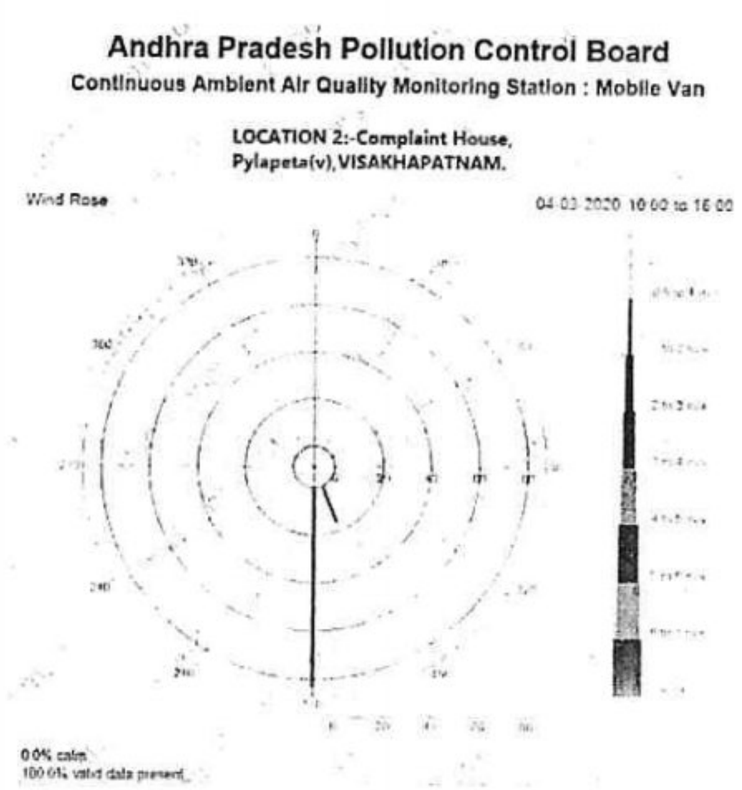


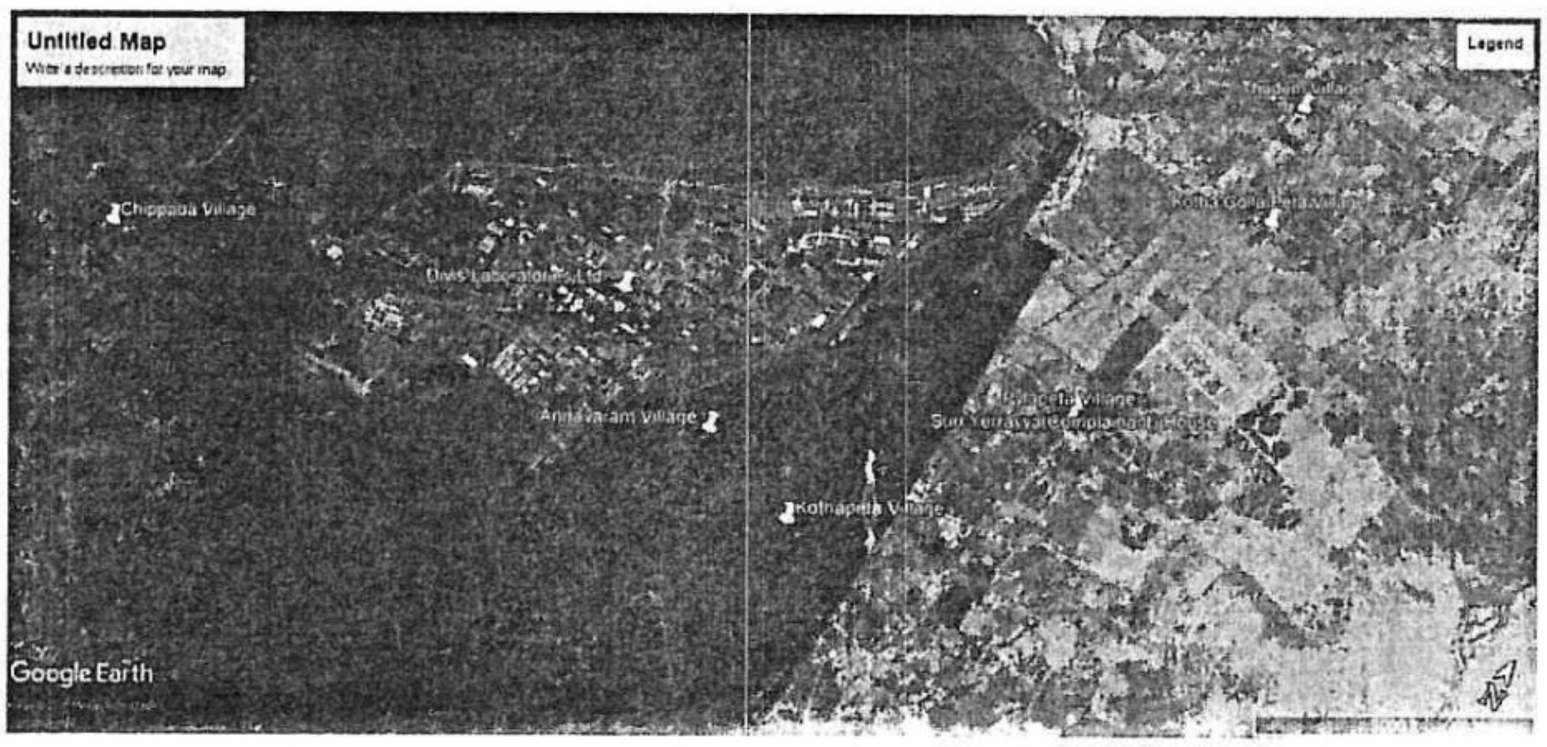
AAQ monitoring station at Pylapeta Village



CAAQ monitoring station at Annavaram Village







Analysis report of the manual Ambient Air Quality Monitoring stations :

A. House of Yerrayya, Pylapeta (V)
B. House of D. Appanna, Pyalapeta (V)
C. House of D. Appanna, Pyalapeta (V)
D. Grama Sachivalayam, Annavaram (V)
E. House of D. Appanna, Pyalapeta (V)
F. Grama Sachivalayam, Annavaram (V)

Sample No.	Date	Location	Parameter			
			PM 10 ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)
A	08.03.2020	H/o Yerrayya	41	7	18	36
B	08.03.2020	H/o D. Appanna	64	11	21	30
C	09.03.2020		50	10	19	30
D	10.03.2020		63	8	15	29
E	09.03.2020	Grama Sachivalayam	56	6	14	28
F	10.03.2020		54	7	15	28
Standard (24 Hr. Avg.)			**100.0**	**80.0**	**80.0**	**400.0**

9	Levadopa	10	11760	12600	0	16380	4620	2520
10	IMPALA WITH BAH & 3-HAP	11	450	0	0	450	450	0
11	MESALAMINE	12	4818	5694	7884	7008	2190	7446
12	Sitagliptan phasphate	13	15960	12600	14280	9240	15120	6720
13	Aminoalcohol/Chloropurin	15	0	0	0	0	0	3900
14	Losartan(MECEDES)	16	0	0	0	0	0	0
15	Valsartan	17	26400	21600	2400	24800	23200	21600
16	lamotrigine	18	6600	6105	7425	7425	1485	7425
17	Beta carotine	19	6270	6270	6270	3420	6270	6270
18	ASTAXANTHIN	20	5460	5460	5460	1560	5460	5460
19	Raltagraviar	21	3870	3870	3010	0	3870	3870
20	Pregabalin	22	4800	800	12000	9600	4800	13600
21	Intermediate of lavetracitam	23	0	0	0	0	0	0
22	Carbidopa	24	4050	3600	4050	3900	3000	3900
23	CAPECITABINE	25	1920	480	960	1080	1200	2160
24	Orlistat	26	0	0	2500	2500	1000	0
25	Simvastatin	27	0	0	0	0		0
26	4-CPCCA(KEY)	28	0	0	0	0	2430	2430
27	CKE	32	1200	0	0	0	0	1200
28	Lycopene	33	600	720	720	240	1080	1200
29	DIHYDROXY PYRIDONE CARBOXYLIC ACID METHYL ESTER/DHPM(ELENTRA)	34	0	0	0	0	0	0
30	2,3-DIMETHYL-6-AMINO-2-H-INDAZOLE	35	1080	1080	1100	1210	1210	0
31	Alendroic acid	40	666	666	0	0	0	0
32	DTTA salt	46	0	220	220	220	0	0
33	ZL- valine	49	0	0	0	0	0	0
34	Dial	70	0	0	0	0	0	0
35	EF-9	79	0	0	45	0	0	0
36	Ethyl ester	57	0	0	0	0	1200	0
37	Moc Valine	41	0	0	0	0	180	0
38	DCAM	38	0	0	0	0	0	1200
			853234	**680745**	**801074**	**730123**	**711495**	**806201**

8	a. Details of the water consumption and flow meters status.	The source of water supply is the infiltration wells (4 Nos.) in the Gosthani river bed at Thagarapuvalasa and Desalination plant. As per CFO, the permitted water consumption is as follows:

S. No	Purpose	Quantity (KLD)		
		Fresh	Recycled	Total
1.	Process	652	0	652
2.	Washings	400	0	400
3.	Boiler feed	700	800	1500
4.	Cooling	490	510	1000
5.	Softener/DM plant/RO Plant	500	0	500
6.	Domestic and Township	600	0	600
7.	Others (incinerator	50	0	50

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6. Contrary to the visual observation of soot on the leaves in the complainant villages, Low PM levels are reported during the monitoring which may be due to the prevailing wind direction which was between North and North-Northeast and not towards the complainant villages which are located in East and East of North east, where the monitoring was carried out.
7. The report pertaining to damage assessment due to pollution to the Horticulture gardens may be obtained from Agriculture department and a Health survey may be carried out by Health department to assess any abnormal health issues prevailing in this area.

The industry was inspected and the details of inspection are as follows:

1	A. Name of the industry	M/s. Divi's Laboratories Limited, (Unit-II)
	B. Address of the Industry	Chippada (V), Annavaram (PO), Bheemunipatnam (M), Visakhapatnam District.
	C. E-mail	mail@divislaboratoreis.com siripurapu.balaji99@gmail.com sbalaji@divislaboratories.com
	D. Mobile	8978799449
	E. Telephone	08922248911
2	Date of Inspection	02.03.2020
3	Name and Designation of the person contacted	Sri D M Rao - Director
4	Line of Activity & Category	Bulk Drugs and Bulk Drug Intermediates – Red-Haz
5	Status of operation	The industry is in operation.
6	Status of consent under the Water & Air Acts & HW Authorization. (Order date & Validity period)	The industry has obtained Consent for Operation & Hazardous Waste Authorization vide order dt. 06.03.2019 which is valid up to 30.11.2021.
7	a. Name of the product(s) and by-products manufactured with quantity (per day or month or annum)	The industry is permitted to manufacture 90 nos. of bulk drug and intermediate products including R&D products with a maximum production capacity of 29,421.917 Kg/Day.
	b. Comments on whether the products are permitted products and production is within the permitted capacity (Duly verifying Excise returns of 6 months):	The industry has manufactured 38 consented products of 2570.310 Tons from Sept'19 to Feb '20 as given below. The industry has manufactured the consented products and within the permitted capacity.

S No	Product Name	S.No: as per CFO dt: 06/03/19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	DL-Naproxine	1	353600	232800	343200	353600	353600	301600
2	Naproxen	2	59400	52650	56700	33750	43200	54000
3	Sodium Neproxin	3	148960	148960	148960	148960	91200	148960
4	GABAPENTIN	4	154800	133200	149400	59400	100800	185400
5	Cabamazepine	6	2800	2600	0	0	0	0
6	Carbamic acid	7	8050	8050	8050	19550	5750	0
7	SIGMA-1 WITH ISA&ISB (DEXTROMETHORPHAN HBR INTERMEDIATES)	8	20720	20720	14800	7400	20720	20720
8	ATIPA(ATIPADICHLORIDE)	9	9000	0	11640	18430	17460	5820

	scrubbing)			
8.	For green belt	700	540	1240
	Total	4092	1850	5942

The month wise water consumption during last six months is as follows:

Month	Quantity
Sept '19	67848 KL
Oct'19	72488 KL
Nov'19	69290 KL
Dec'19	69870 KL
Jan'20	64849 KL
feb'20	59427 KL
Avg	**2220 KLD**

As per the records the water consumption is 2220 KLD (average) against the permitted quantity of 4092 KLD during the period from Sept'19 to Feb'20.

b. Flow meter readings

The industry has provided flow meters for assessing the water consumption at various locations i.e. process QC, and R&D, DM plant, softener, domestic & canteen, Town ship and dining hall. The industry is recording the daily water consumption and maintaining the records.

9 a. Details of the effluent generation and flow meters status.

As per CFO, permitted wastewater discharge is as follows:

S. No	Description	Quantity in KLD
1.	Process	797
2.	Washings(floor	400
3.	Boiler Blow	850
4.	Cooling bleed	600
5.	Softener / DM	500
6.	Domestic and	540
7.	Others	50
	Total	**3737** (1850 KLD reused + 1887 KLD marine discharge)

b. Flow meter readings

The industry has provided flow meters to record the Wastewater generation / treated at various locations and the readings are as follows:

Source	Reading m^3
LTDS Effluent	43843.9
ETP to Guard pond	R.O Reject- 98159.5 Non-Process- 169036.6
Stripper feed	115848
MEE feed	90238.9
ATFD feed	25953.6
MEE distillate	82754.7
ATFD distillate	294035.0
Marine out fall	33531.01
ETP Outlet (Non process, RO rejected, LTDS, NACL)	72686.6

The industry has generated effluents in KL from Sept'19 to Feb'20 are as follows:

Month	HTDS effluents	High COD effluent	High TDS & High COD effluent Generation	Low TDS & Low COD effluent	NaCl effluent	Non-process effluent	RO rejects
Sept '19	1364.2	669.5	1769.7	6775.0	1063.2	3286.0	4595.0
Oct'19	804.3	667.3	1968.2	6836.2	777.3	3221.0	2752.0
Nov'19	981.7	716.8	2499.9	7960.4	1333.0	3076.0	2681.0
Dec'19	1681.4	604.3	2518.1	8553.0	1272.0	3248.0	2350.0
Jan'20	952.3	551.5	2513.4	8187.4	1484.0	3258.0	2607.0
Feb'20	1073.9	854.1	2347.4	8225.0	1945.5	2989.0	2233.0

Total average effluent generation is 508.0 KLD against consented capacity 1887 KLD.

10	a. Details of the Effluent Treatment systems and disposal	**HTDS stream and High COD stream** : The industry has provided stripper (15kl/hr), MEE (13.5kl/hr) & ATFD (3.5 kl/hr) **Disposal** : Stripper for separation of organic compounds and separated organics sent to cement plants for co-processing & Stripped effluents forced evaporated in MEE. Condensate from MEE & ATFD sent to further treatment in ETP. MEE Concentrate sent to ATFD and ATFD salts to TSDF. **Low TDS stream & Domestic:** treated in ETP consisting of Physical, chemical & Biological treatment and STP. **Disposal:** disposed in to sea after meeting the marine discharge standards. **Utility effluent:** treated in neutralization & central monitoring basin and disposed in to Sea after meeting the marine discharge standards.
	b. Compliance with standards stipulated based on Board data / online monitoring systems:	The treated effluents are stored in guard ponds for discharge through marine outfall. The industry has provided 2 Nos. of pumps (1 No. standby) with discharge rate of 150 m^3/hr and also laid 12" dia HDPE pipelines of length 3.3 Kms (onland 2.1 Km & In sea 1.2 Km) for discharge of the treated effluents into Sea. The industry has installed online continuous effluent monitoring system for the parameters TOC, COD, TSS and pH for the marine discharge outlet pipeline. There was not discharge on the day of inspection and the next marine discharge is scheduled on 04.03.2020. The treated effluent is being pumped into Sea through marine outfall under the supervision of APPCB officials. The LTDS effluent generation and quantity of effluent discharged through marine outfall for the months of Oct 19 to Feb 2020 is submitted below:

Sl. No	Month	LTDS Effluent Generated (KL)	Quantity of effluent discharged through marine outfall (KL)
1	Oct'19	13586.56	13848.64

2	Nov'19	15050.4	14811.52
3	Dec'19	15423.09	14001.8
4	Jan'20	15536.5	16173.72
5	Feb'20	15392.55	13256.52
	Total	74989.09	72092.2

Effluents from the following guard ponds were rejected for marine discharge by the board for non-compliance of discharge standards.

Date 30.10.2019 GP-I – 1414 KL (COD exceeding standards)
GP-II – 1188 KL (COD exceeding standards)

The industry was made to take back effluents back to ETP for treatment. Hence the variation is observed between effluent generation and effluent discharged through marine outfall.

During inspection, the samples were collected from the following points and submitted to Zonal Laboratory for analysis.

1. ETP inlet
2. Equalization & Neutralization Tank-4
3. Settling tank inlet
4. Equalization & Neutralization Tank – 3 (Non process)
5. Anaerobic Filter outlet
6. MEE distillate outlet
7. MEE feed
8. Stripper feed
9. Concentrate (ATFD feed)
10. GP-I
11. GP-II
12. GP-IV
13. GP-V
14. Inlet of GP-I

Analysis reports :

2020 – 03 – E – 001: Equalization & NeutralizationTank-4
2020 – 03 – E – 002: Settling Tank Inlet
2020 – 03 – E – 003: ETP Inlet
2020 – 03 – E – 004: Equalization & Neutralization Tank-3 (Non Process)
2020 – 03 – E – 005: Anaerobic Filter Outlet
2020 – 03 – E – 006: MEE Distillate Outlet
2020 – 03 – E – 007: MEE Feed
2020 – 03 – E – 008: Stripper Feed
2020 – 03 – E – 009: Concentrate (ATFD Feed)

Sl. No.	Parameters	2020 03 E-001	2020 03 E-002	2020 03 E-003	2020 03 E-004	2020 03 E-005	2020 03 E-006	2020 03 E-007	2020 03 E-008	2020 03 E-009
1.	pH	7.97	8.11	4.51	7.76	8.00	8.77	8.14	7.97	6.51
2.	Total Suspended Solids at 105°C	60	104	295	41	66	239	1514	1770	3015
3.	Total Dissolved Solids at 105°C	8012	7516	33252	31680	8005	4068	4756	6704	39680

4.	Chemical Oxygen Demand	6800	6240	6400	5760	304	4000	3280	4320	10240
5.	Biochemical Oxygen Demand	1700	1300	1300	1200	60	1200	800	1100	2800

2020 – 03 – E – 010: Guard Pond-1
2020 – 03 – E – 011: Guard Pond-2
2020 – 03 – E – 012: Guard Pond-4
2020 – 03 – E – 013: Guard Pond-5
2020 – 03 – E – 014: Inlet of Guard Pond-1

Sl. No	Parameters	2020 03 E-010	2020 03 E-011	2020 03 E-012	2020 03 E-013	2020 03 E-014
1.	pH	7.89	7.29	8.49	7.66	7.53
2.	Total Suspended Solids at 105°C	39	42	51	28	26
3.	Chemical Oxygen Demand	160	64	132	64	160

11 a. Details of sources of Air pollution and Control equipment and systems.

The following are the details of air pollution control equipment:

Sl. No	Source of Pollution	Control equipment
1	Hazardous waste incinerator- 9000 kg/day	Spray dryer, Quencher, Scrubber, dust collector & bag filters
2	2 X 16 TPH Coal fired boiler (1 No. of 16 TPH boiler standby)	Dust collector followed by bag filters
3	24 TPH coal Fired Boiler	ESP
4	6 TPH Coal fired boiler	Multi cyclones
6	24 TPH Coal fired boiler	ESP
7	Process vents	About 95 Nos of scrubbers provided at various production blocks to control acidic emissions and online pH meters were provided.

b. Compliance with standards stipulated based on Board data / online monitoring systems:

During inspection, the incinerator, 2 X 16 TPH boilers, 1 X 6 TPH boiler are not in operation. 24 TPH boiler is functioning. Another 24 TPH boiler is under installation in the expansion project. 16 TPH boilers and 24 TPH boiler are connected to single stack for which OCEMS is installed and connected to APPCB website. Stack monitoring was also carried out for the stack during inspection and submitted to Zonal lab for analysis.

During inspection, the incinerator is not in operation and the Particulate Matter concentration in the common stack as observed in OCEMS is 51.0 mg/Nm^3 as against the monitored value of 45.6 mg/Nm^3.

12 Details of solid and hazardous waste generation, storage and disposal:

As per consent order the generation of Hazardous waste with disposal option are as follows:

S. No	Name of the Solid / Hazardous waste	Quantity	Method of Disposal
1.	Process organic residues and Distillation bottom residue	5272 kg/day	Shall be sent to the authorized Cement plants for Co-processing (or) TSDF, Parawada for incineration
2.	Spent carbon	1200 kg/day	
3.	Off specified & Discarded raw materials, lab chemicals & products	50 kg/day	
4.	Multiple effect evaporation or forced evaporation salts	664 kg/day	To TSDF, Parawada, Visakhapatnam District for secured land filling.
5.	ETP sludge	340 kg/day	
6.	Incineration ash	130 kg/day	
7.	Spent solvents	440 Kl/day	Shall be recovered within the premises / to authorised agency for recovery duly complying the standard operating procedures (SOPs) issued by CPCB.
8.	Mixed spent solvent	140 Kl/day	Shall be sent to authorized recovery units / Authorized cement plant for co-processing duly complying the standard operating procedures (SOPs) issued by CPCB.
9.	Spent acids	60 Kl/day	Shall be sent to authorized agencies duly complying the standard operating procedures (SOPs) issued by CPCB.
10.	Spent catalysts	3400 kg/Month	Shall be sent to the Supplier for recovery
11.	Containers & Container liners of Hazardous chemicals & Hazardous wastes.	Containers – 3400 Nos. /Month & Liners – 8500 kg/Month	After complete detoxification shall be sent to authorized agencies, after complete detoxification for reuse/ recycle.
12.	Used Oil / Waste lubricant Oil	340 lts/Month	Shall be used as lubricant within the premises / to authorized Re-processors / Recyclers / to the Cement industries for co-processing.
13.	Insulation Waste and Puff	2 TPD	Shall be sent to authorized agencies (or) TSDF, Parawada / Cement Industries.

The hazardous waste generation details for six months is as follows:

a. Disposable	-	Opening Qty's	Generation Qty's	Disposal Qty's	Onsite storage
i) Incinerated Ash	Kg's	360	3365	3070	655
ii) ETP Sludge	Kg's	7601	39709	35620	11690
iii) H.W Containers 1. M.S Drums	No's	81	1713	1567	227
2. HDPE Drums	No's	100	1095	1044	151

3. Carbouys	No's	30	186	122	94
4. Container Liners	No's	13	165	67	111
iv)MEE salts	Tons	17.705	87.344	87.42	21.629
v)Insulation Waste	Tons	5.5	245.77	227.38	23.89
b. Incinerable	-				
i) Process residue	Kg's	51334	486321	511612	26044
ii) Spent Carbon	Kg's	24713	137508	140490	21731
c. Recyclable					
i) Spent Catalyst (Raney Nikel+Pd Carbon)	Kg's	0	7451	7451	0
ii) Mixed/Spent solvent	Lts	249589	5202273	5413560	38302
iii) Spent Lube Oil	Lts	0	1760	1250	510

The industry is disposing organic residue, spent carbon & mixed spent solvent to authorized cement industries for co-processing, salts from MEE, ETP sludge & Incineration ash to TSDF, Parawada for land fill. Spent acids disposed to Alum units and Spent catalysts are disposed to suppliers.

13	CAAQMS & CEMS status	The industry has provided online effluent monitoring system for marine discharge, three CAAQM stations and CEMS to common stack of 16 TPH and 24 TPH Coal fired boiler stack and are connected to APPCB & CPCB websites. A) The industry has installed online continuous effluent monitoring system for the parameters TOC, COD, BOD, TSS and pH for the marine discharge outlet pipeline. There was not discharge on the day of inspection and the next marine discharge is scheduled on 04.03.2020. B) Online stack emission monitoring systems is provided to the common stack of 16 TPH and 24 TPH boilers. During inspection, the incinerator is not in operation and the Particulate Matter concentration in the 24 TPH boiler stack is 51.0 mg/Nm^3 as against the monitored value of 45.6mg/Nm^3. The industry installed three online continuous AAQ stations at the following locations and the values are noted during the inspection as follows. **Nutra Building:**

S. No	Parameter	Online value µg/m^3	Standards µg/m^3
1	PM – 2.5	43.91	60
2	PM - 10	75.62	100
3	NOx	18.5	80
4	SO2	7.41	80
5	VOC	0.57	-

At Quality control building:

S. No	Parameter	Online value µg/m^3	Standards µg/m^3
1	PM – 2.5	32.23	60
2	PM - 10	57.2	100
3	NOx	Not being displayed	80
4	SO2	10.28	80

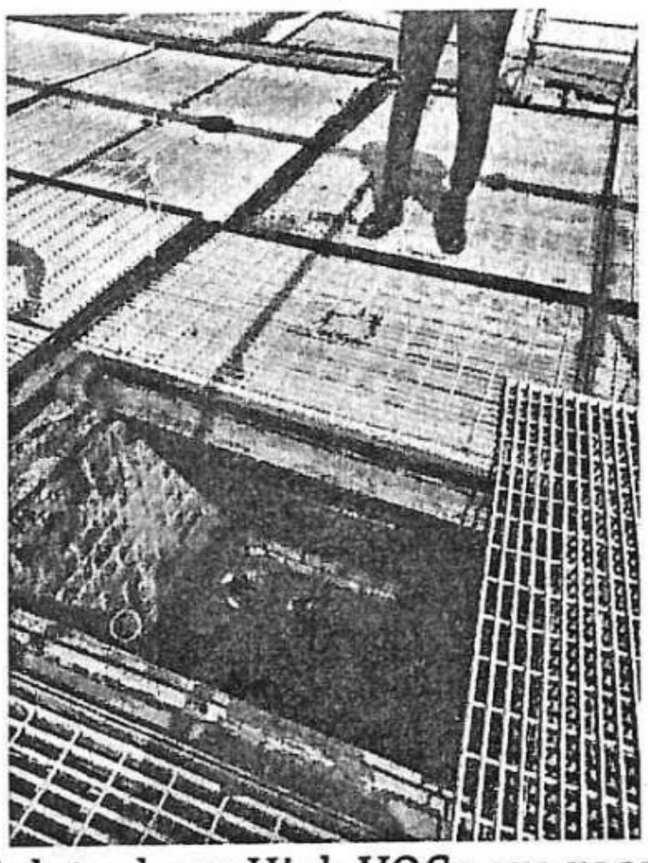
		5	VOC	0.86	-

At RMWH building:

S. No	Parameter	Online value µg/m³	Standards µg/m³
1	PM – 2.5	23.26	60
2	PM - 10	51.07	100
3	NOx	25.69	80
4	SO2	7.8	80
5	VOC	0.71	-
6	Ammonia	8.3	400

14 Remarks:

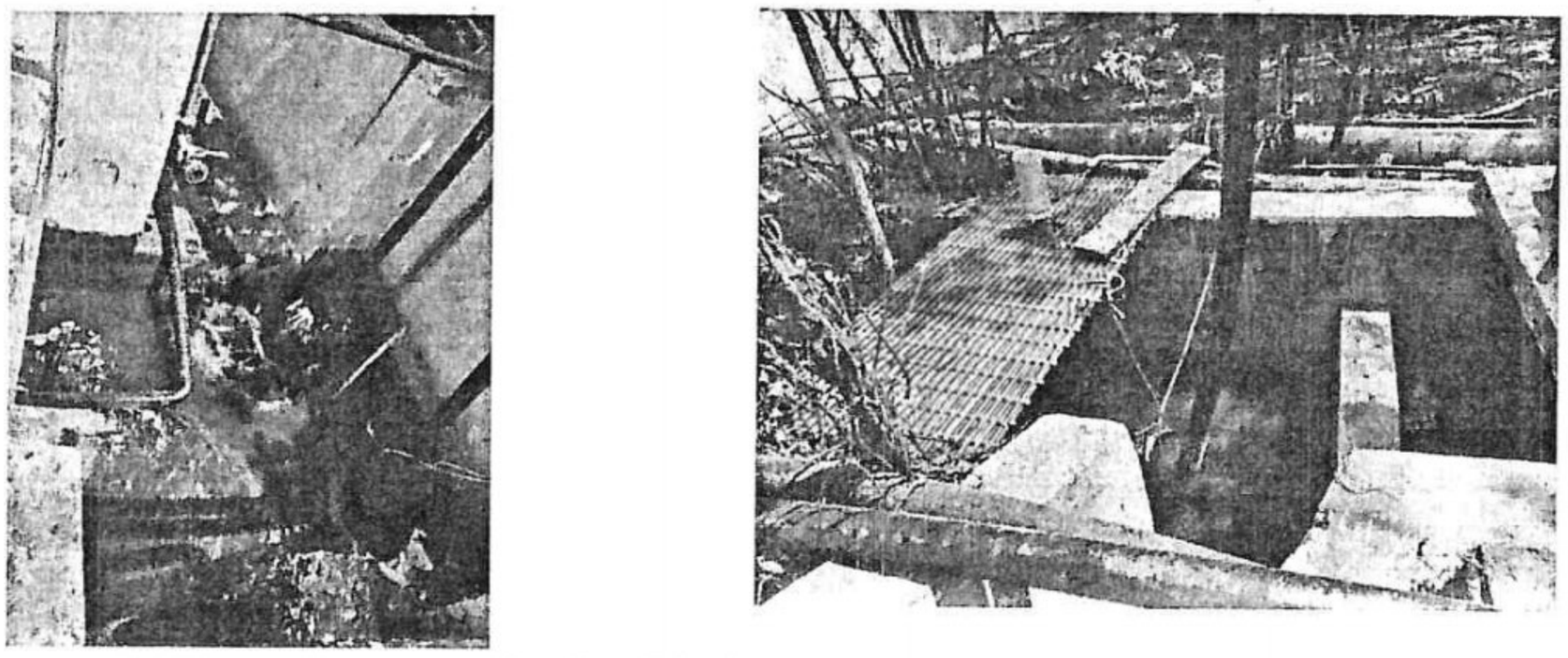
1) The industry is a bulk drug & intermediates manufacturing unit located at Chippada (V), Visakhapatnam District.
2) The industry obtained EC from MoEF&CC, GoI and CFE, CFO of the Board for manufacture of 90 products with maximum production capacity of 29.422 TPD. The industry has manufactured 38 Consented products within consented capacity.
3) The industry has 26 production blocks and has provided two/three stage scrubbers at all the production blocks to control the process emissions.
4) The industry is segregating the effluents as High COD and Low TDS, Low COD and High TDS, Low COD and Low TDS effluents, NaCl effluents and non process effluents (boiler blow-down & cooling tower bleed off). The CFO was also issued for 8 streams.
5) The industry is treating High TDS, High COD effluent in stripper, MEE and ATFD. Low TDS effluents are treated in a biological ETP along with MEE-ATFD condensate. The NaCl effluent which is generated separately at a particular blocks is mixing with treated Low TDS effluent in the guard ponds.
6) The industry has also a desalination plant. In the CFO, the outlet of desalination unit was not mentioned. The CFO order requires to be amended.
7) The industry has provided effluent treatment plant for treating the LTDS effluents. The VOC levels at the inlet of ETP are very high and the industry is required to provide a hood and a suction system connected to scrubber for control of VOCs at the inlet of ETP.



ETP Inlet where High VOCs are recorded

8) The treated effluents are stored in guard ponds for discharge through marine outfall. The industry has provided 2 Nos. of pumps (1 No. standby) with discharge rate of 150 m^3/hr and also laid 12" dia HDPE pipelines of length 3.3 Kms (Onland 2.1 Km & In sea 1.2 Km) for discharge of the treated effluents into Sea. The treated effluent is being pumped into Sea through marine outfall under the supervision of APPCB officials. The marine discharge is carried during day time for a period of 5 to 6 hours in a day for 2 or 3 days in a week.
9) The industry has provided trunk storm water drains all along the eastern compound wall which finally joints the duct containing marine pipeline and desalination inlet, outlet pipelines for disposal to sea. The industry has provided check bunds at 3 places

and provided pumping system to take back any effluents finding way into storm water drain to ETP. The collection arrangement and sump provided in the storm water drain along the eastern compound wall are in close proximity to the hand pump of Annavaram Village where sample was collected which may be the reason for contamination identified in the hand pump. Hence the industry is required to prevent any effluent joining storm water drains and all the leakages should be contained in the production blocks itself immediately.



Spillages from production blocks joining storm water drains

10)The industry has provided hazardous waste storage shed and the hazardous waste is stacked and stored separately in the shed. The industry is disposing organic residue, spent carbon & mixed spent solvent to authorized cement industries for co-processing, salts from MEE, ETP sludge & Incineration ash to TSDF, Parawada for land filling. Spent acids are disposed to Alum units and Spent catalysts are disposed to suppliers.

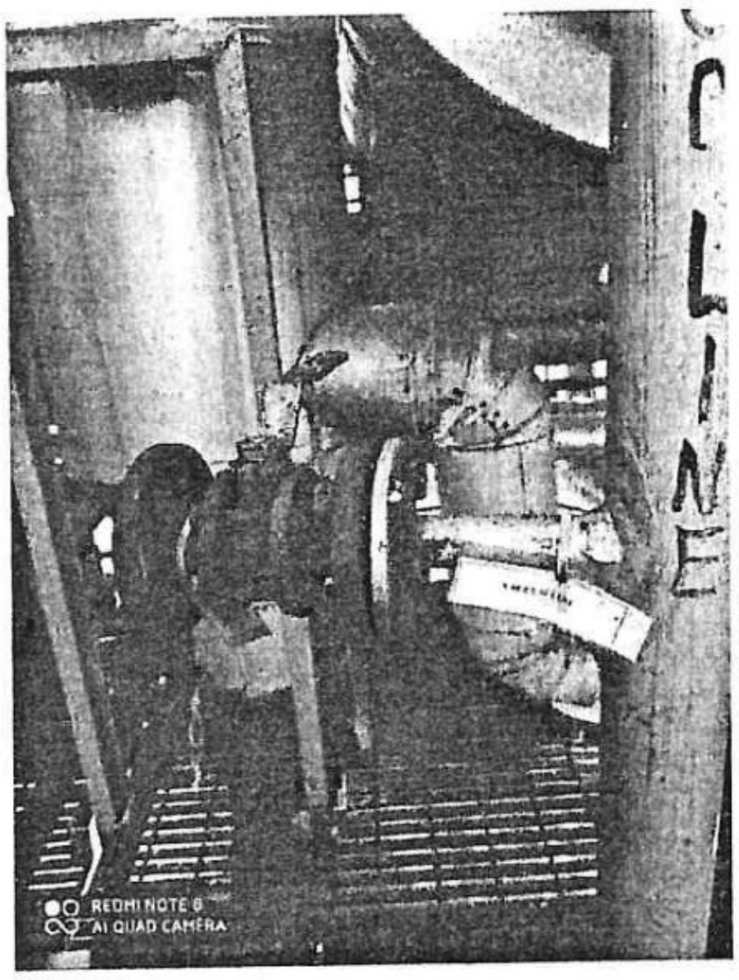


Onsite Hazardous waste storage

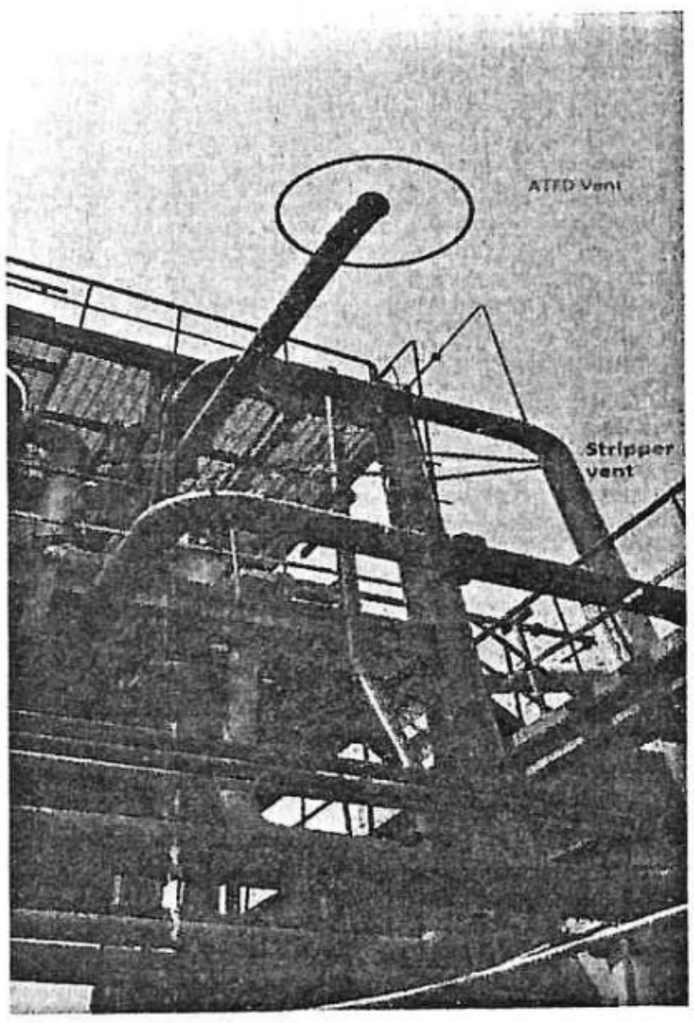
11)The HTDS effluents are categorized and being segregated as HTDS – High COD, High TDS – Low COD, High COD and another 4 streams and are subjected to MEE at different stages i.e., High COD – Low TDS effluents and High TDS - High COD effluents are fed to stripper followed by MEE and ATFD. High TDS – Low COD effluents are directly fed to ATFD.

12)The direct feed of High TDS effluent to ATFD would cause smell nuisance. It may also be required to pass all the High TDS effluents through stripper, MEE and ATFD in sequence. The issue of amendment to the CFO order in this contest may be examined.

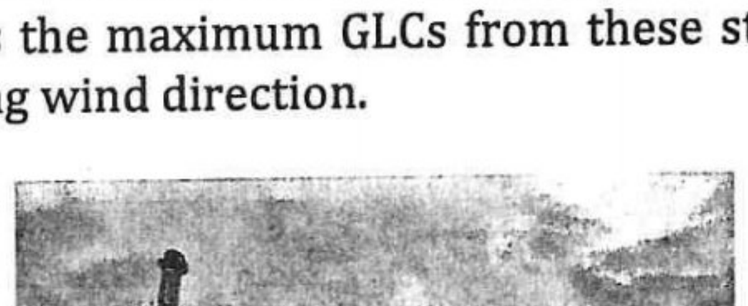
13)The MEE is operated under vacuum and the vacuum is released after completion of days work mostly in the evenings. There may be release of un-condensed VOCs after the release of vacuum through the vent.



14)The stripper and ATFD vents are open without any control equipment which would lead to release of VOCs and other uncondensed gases leading to severe odour nuisance.

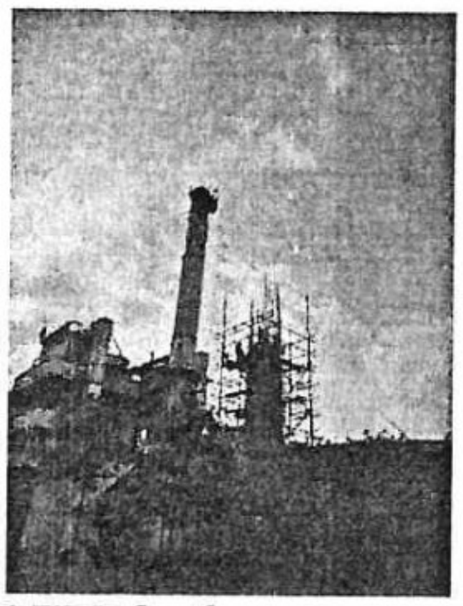


15)The industry is having 3 nos. of coal fired boilers viz. 24 TPH, 16 TPH and 6 TPH. The existing 24 TPH boiler is provided with ESP and connected to 30 mts. height MS stack. The 2 nos of 16 TPH boilers (1 stand by) is provided with 2 individual sets of bag filters and connected to a common 30 mts height MS stack. The 6 TPH boiler (standby) is provided with bag filters and connected to a MS stack of 30 mts. height. As seen from the ground observations the maximum GLCs from these stacks are observed between 0.8 to 1.5 KM in prevailing wind direction.

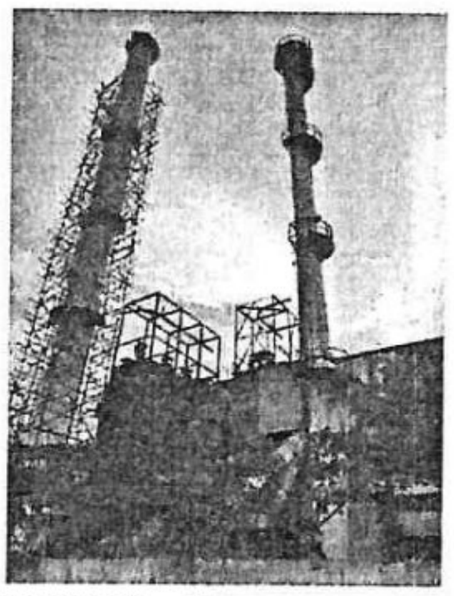


Boilers

16)The industry is installing another 2 boilers of 16 TPH and 24 TPH as a part of expansion besides the existing boilers. The industry has completed 90% works pertaining to installation of a new ESP and a concrete stack of 50 mts. height for the new boiler without starting the erection of the new 24 TPH boiler. It was informed that the existing 24 TPH boiler emission ducts would be connected to the new ESP and the new concrete stack within 1 or 2 months after completion of the balance works. The industry is also constructing a new and separate ESP for 16 TPH boiler which is to be connected to a new and separate concrete stack which is under construction. The existing 16 TPH emission duct would be connected to this ESP and concrete stack after construction which is likely to take another 4 to 5 months.



16 TPH boiler new stack under construction



24 TPH boiler new stack under construction

17)The boiler stacks are given a standard of 115 mg/NM^3 in the consent order and it may be required to further reduce the standard to minimize the impact of GLCs in the impact areas as the industry is already in the process of installing latest ESPs to which the existing boiler emission ducts are to be connected.

18)The scrubber vents provided on the production blocks are at a height of 20 to 25 mts. from the ground level and any failure of scrubbing systems would cause higher GLCs of respective emissions at impact places. The industry is required to either reduce the vent heights so that the GLCs fall within the industry premises or evolve and install next layer emission control systems for effective control of process emissions during failure of scrubbing systems.

19)The industry has provided 3 layer control systems viz., condensers, dipping the vent into water media and nitrogen blanket at some of the solvent storage tanks for control of VOCs from the storage tanks. They have not provided the 3 layer control system at all the solvent storage tanks.

20)The industry is required to carry out LDAR (Leak detection and repair) study pertaining to solvent loses and take appropriate measures as suggested in the report for control of emission of VOCs.

21)The industry, as a part of their expansion is constructing a total waste management premises with 24 TPH boiler, Stripper, MEE & ATFD, solvent recovery unit and a specialized ETP to catter to various segregated streams. The premises is under construction and likely to be commissioned within 6 months. This waste management systems under contraction are of latest technology with adequate self built safety systems. The industry is required to expedite the commissioning of this new waste management premises for improved, effective and efficient waste management for further mitigation of the existing pollution problems.

22)Compliance status of the conditions issued in EC, CFE & CFO orders is enclosed.

In view of the above the industry may be directed to take the following measures immediately.

1. Provision of hood, suction system and scrubber at the inlet of ETP to prevent emission VOCs.
2. Provision of scrubber to the stripper and ATFD vents and suitable provision for vacuum vent of MEE to prevent emission of uncondensed gases.
3. Commissioning of new ESPs and connecting to new stacks for the existing 24 TPH and 16 TPH boilers within 1 month.

4. Provision of OCEMS to all the stacks connected to 24.0 TPH, 16.0 TPH, 6.0 TPH boilers.
5. Provision of collection system at the production blocks to prevent spillages entering the storm water drains. The industry shall ensure that the storm water drains are totally dry during non storm days.
6. To take up LDAR (Leak detection and repair) study pertaining to solvent loses and take appropriate measures as suggested in the report for control of emission of VOCs within 1 month.
7. To expedite the commissioning of new waste management premises within 3 months.
8. To provide data loggers to the online pH meters provided to the scrubbers and connect to the central control room and shall maintain continuous data with atleast 90 days back up. The industry shall explore the possibility of further improvement of the provision of another layer of control systems for this scrubber vents.
9. To identify the source of contamination of Hand pump at Annavaram village and to take up action for remediation of the bore well and also the contaminated soil.

Recommendations:

1. The Board may review the industry and issue directions for rectification / implementation of all the above issues.
2. The Collector & District Magistrate, Visakhapatnam may be requested to get the agricultural & Health surveys carried out in the villages mentioned in the complaint by respective departments in the district.
3. The Board may re-examine some of the quantities and conditions issued in the CFO viz., characterization and disposal of HTDS effluents, desalination plant and PM standards for the stack emissions.

Submitted for favor of kind information and necessary action.

Yours faithfully,

Pothineni Ravindra Nadh

Digitally signed by Pothineni Ravindra Nadh
Date: 2020.03.21 16:21:07 +05'30'

(P. RAVINDRA NADH)
Senior Environmental Engineer,
Zonal Office, Visakhapatnam

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Annexure – I

COMPLIANCE ON CONDITIONS OF EC ORDER DATED: 27.11.2018

S. No.	Conditions	Compliance
A. <u>SPECIFIC CONDITIONS</u>		
I	The industry shall obtain the CRZ clearance under the costal regulatory zone notification 2011.	The industry has not yet obtained the CRZ clearance. The industry informed that the CRZ studies done by M/s. Indomer, Chennai and submitted application dated 04.02.2020 for obtaining CRZ clearance.
II	To take conservation measure for safety of sea turtles in the Gosthani River estuary	The industry informed that there is no sea turtle nesting grounds near the Gosthani River estuary. The industry was instructed to obtain confirmation letter from fisheries department / wild life department.
III	The industry shall segregate effluents in to different streams i.e., High COD and Low TDS, Low COD and High TDS, Low COD and Low TDS.	The industry is segregating the High COD and Low TDS, Low COD and High TDS, Low COD and Low TDS effluents.
IV	The industry shall develop waste factors for different streams of effluents and solid waste	The industry discharging effluents @ 29.3 Kg per production of 1 Kg product. The industry generating solid waste @ 0.1985 Kgs per production of 1 Kg product.
V	The industry shall provide two stage scrubber system to control process emissions.	The industry has provided 95 nos of 2/3 stage scrubbers with online pH meters in 21 production blocks to control the process emissions.
VI	The industry shall provide Solvent recovery system.	The industry has installed solvent recovery system.
VII	The industry shall provide hazardous waste container (drums) cleaning/washing system	The industry has provided drum washing facility at production blocks.
VIII	The industry shall provide mass flow meter to measure quantity of stream consumed for MEE system	The industry has provided flow meter.
IX	The industry shall provide magnetic tamper proof flow meters to measure quantity of different streams of effluents generated and routed through the treatment systems	The industry has provided electromagnetic flow meters for wastewater generation, LTDS Effluent, R.O Reject, Non-Process, Stripper feed, MEE feed, ATFD feed, MEE Condensate, ATFD Condensate and marine discharge.
X	The industry shall provide stream stripping system to handle volatile mater in the effluents.	Stripper is installed for stripping of Volatile mater in effluents before MEE.
XI	The industry shall send hazardous waste to authorized cement industries/TSDF/authorized recyclers by properly maintaining the system.	The industry is disposing hazardous wastes to TSDF and cement industries.
B. <u>SPECIFIC CONDITIONS</u> **a) Air pollution:** The proponent shall comply with the following for controlling air pollution after expansion:		

Sl. No	Details of the stack	Stack – 1	Stack –2	Stack –3	Stack –4	Stack –5	Stack –6
1	Attached	Hazardous waste incinerator	Boiler	Boiler	Boiler	DG sets	Boiler
2	Capacity	9000 kg/day	Common stack attached 2 x 16 TPH (1 no standby)	Common stack attached 1 x 6 TPH & 2 TPH standby	24 TPH (3x8 TPH FBS of which 1 no of FBC of 8 TPH standby)	10x1250 KVA (Few are new) 14x1500KVA (eight are new) 2x320 KVA 2x125 KVA 2x 1000 KVA 1x62.5 KVA 1x10 KVA	1 x 24 TPH Coal fired boiler
3	Fuel	Diesel	Coal	Coal	Coal	Diesel	Coal
4	Stack height	30 m	35 m	30 m	35 m	15 m	35 m
5	Control equipment	Spray dryer, Quencher Scrubber, dust collector & bag filter	Dust collector followed by bag filter	Common multi cyclones	Electrostatic precipitators	Acoustic enclosures	Electrostatic precipitators

Compliance: During inspection, the incinerator, 1 X 16 TPH boilers, 1 X 6 TPH boiler are not in operation and 1 X 2 TPH boiler is Dismantled. 24 TPH 2nd boiler and 3 X 8 TPH boilers are under erection. Only 1 X 16 TPH boiler and 1 X 24 TPH boiler are in operation.

I	The concentration of particulates in the emission shall not exceed 115 mg/Nm^3. Sampling Port with removable dummy of not less than 15cm diameter in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc., shall be provided to monitor stack emissions. Adequate stack height shall be provided for existing D.G. Sets as per CPCB norms.	Online stack emission monitoring systems is provided to the 24 TPH boiler and incinerator and connected to the web site of APPCB. During inspection, the incinerator is not in operation and the Particulate Matter concentration in the 24 TPH boiler stack is 45.6 mg/Nm^3.
II	The process emissions shall be routed through two stages scrubber system. Scrubbed liquid shall be treated and reused or subjected to MEE.	The industry has provided 95 nos of 2/3 stage scrubbers with pH meters. Scrubbed liquid is taken to ETP / MEE.
III	Necessary measures shall be taken to control odor as far as possible. Sub coolers for brine circulation shall be installed to reduce solvent evaporation losses into the atmosphere. All the solvent storage tanks shall be connected to vent condensers with chilled water circulation to minimize the solvent loss. The proponent shall install VOC meter in the plant to monitor continuously the VOC emissions with recording facility.	The industry has installed sub coolers and using vent drums to minimize the solvent loss to atmosphere. VOC meters are installed in three AAQMS stations.
IV	The solvents shall be recovered by installing fractional distillation columns. The recovered solvents shall be reused in the process or sold to recyclers authorized by	Solvent recovery systems are installed.

	APPCB. The volatile vapours generated during process shall be routed through condensers and the condensate shall be reused in the plant.	
V	The area of the greenbelt shall not be less than 33% of the total area of the site. Greenbelt with tall growing trees shall be developed along the boundary of the site.	The industry has planted around 2.24 Lakh saplings in and around the premises in an area 220 Ac out of total area 495 Ac.
VI	Raw materials shall be transported in covered trucks. Raw materials shall be stored under sheds. All the belt conveyors shall be covered with G.L. sheets. Appropriate dust suppression system shall be provided all around the stockpiles and conveyor system. All the roads in the plant area shall be asphalted / concreted and water shall be sprinkled to suppress the dust	The raw material is stored in closed sheds and buildings and transported by closed vehicles.
VII	Fugitive emissions from storage tanks will be avoided by providing air condensers.	Industry has provided Vent drums, to some of the storage tanks. Some storage tanks are provided with vent condensers and nitrogen blanket as per the characteristics of the solvent stored to avoid fugitive emissions.
VIII	Ambient air quality including ambient noise levels must not exceed the standards stipulated under Notification dt. 16.11.2009 issued by the MOEF&CC, GO Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with APPCB. Data on ambient air quality should be regularly submitted to the Ministry including its Regional Office located at Chennai and the State Pollution Control Board/ Central Pollution Control Board once in six months.	The industry is complying with emission standards w.r.t boiler. Industry has installed one OCEMS and 3 CAAQM stations and data is uploaded to APPCB and CPCB website.
b) Water Pollution after expansion:		
i	The total water requirement after expansion shall not exceed 5942 KLD (Fresh 4092 KLD, Recycle 1850 KLD). Quantity of water used for Process is 652 KLD, washings I 400 KLD, Boiler 1500 KLD, DM Softener plant 500 KLD, Others (incinerator, scrubbing) 50 KLD, cooling tower make up 1000 KLD, Domestic - 600 KLD & for Development of greenbelt 1240 KLD	The water consumption is at an average of 2220 KLD for last six months
ii	The total waste water generation after expansion is 3737 KLD, Out of that; 797 KLD is from Process; 400 KLD is from washings; 850 KLD is from Boiler blow down; 600 KLD is from cooling towers; 50 KLD is from Scrubbing; 500 KLD from softener /DM Plant RO plant; 540 KLD is from Domestic. The treated waste water of 1850 KLD shall be reused and 1887 KLD shall be treated in ETP and discharge to sea after Meeting marine discharge standards.	Average marine discharge quantity for last six months is 472.0 KLD.
iii	High TDS stream shall be sent to stripper for separation of organic compounds and separated organics shall be disposed to cement plants for co-processing & distilled effluents shall be recycled. Stripped effluents shall be forced evaporated in MEE Condensate from MEE & ATFD condensate shall be mixed with low TDS effluents for treatment. The treated water shall be discharge in to sea after meeting marine discharge standards. MEE Concentrate shall be sent to ATFD. Salts from ATFD shall be sent to TSDF. The High COD stream shall be stripped in stripper and shall be treated in the existing ETP after treatment shall be disposed to sea after meeting marine	The industry is disposing the stripper condensate to cement industries, Condensate from MEE & ATFD is treated along with Low TDS effluents in Biological ETP and disposed to Sea after meeting the marine discharge standards.

	discharge standards. The Low TDS stream & domestic shall be treated in ETP (physical, Chemical and Biological) after treatment in ETP shall be disposed to sea after meeting marine standards. The boiler blow down, cooling blow down, DM Plant re-generation RO plant rejects (raw water) after neutralization & central monitoring basin shall be disposed in to sea after meeting marine discharge standards	
iv	The proponent shall provide separate storm water drains and harvest the rainwater from the rooftops to recharge the ground water.	Rain water is collecting from roof tops through storm water drainage network.
c) Solid Waste after expansion:		
I	Hazardous waste generated from the industry such as organic residue, salts, spent solvents, waste oils, used oils etc. shall be disposed as per the Hazardous and other Wastes (Management and Tran boundary movement) Rules, 2016 and its amendments thereof.	The industry is disposing organic residue, spent carbon & mixed spent solvent to authorized cement industries for co-processing, salts from MEE, ETP sludge & Incineration ash to TSDF, Parawada for land fill. Spent acids disposed to Alum units and Spent catalysts are disposed to suppliers.
II	The process residue - 5272 kg/day shall be sent to cement plants for co-processing or for incineration onsite / TSDF; ETP Sludge - 340 kg/day shall be sent to TSDF for secured land filling; MEE or FE Salts - 664 kg/day shall be sent to TSDF for secured land filling; Incinerated ash - 130 kg/day shall be sent to TSDF, for secured land filling; Off specified & Discarded raw materials, lab chemicals & products- 50 kg/day shall be sent to TSDF / cement industries Containers & container liners of Hazardous chemicals & hazardous wastes 3400 containers- No. s/month & Liners8500 kg/ month shall be disposed to the outside agencies after detoxification; Spent Carbon - 1200 kg/day shall be sent to the authorize cement plants for co-processing (or) incineration at onsite TSDF: Used oil/ Waste lubricant oil 340 lts/month, shall be sent to authorized re-processors/recyclers; Spent solvents-440 kl/day shall be recovered within the premises; Mixed spent solvent140 kl/day shall be sent to authorized agencies/co-processing in cement industries; Spent acid -60 kl/day shall be sent to authorized agencies; Spent Catalysts-3400 kg/month shall be sent to authorized re-processors/recyclers.	The details are submitted in the main report.
B. General Conditions:		
i	This order is valid for a period of 7 years.	--
ii	Consent for Establishment" shall be obtained from Andhra Pradesh Pollution Control Board under Air and Water Act before the start of any activity/ construction work at site.	The industry has obtained CFE
iii	ii. Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as safe drinking water, fuel for cooking, mobile toilets, mobile STP, medical healthcare, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	The industry provided sheds and other facilities.

	The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.	
iv	No change in the process technology and scope of working should be made without prior approval of the SEIAA, A.P. No further expansion or Modifications in the plant shall be carried out without prior approval of the SEIAA, AP/ MOEF&CC, Gol, New Delhi, as applicable.	---
v	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment & Forests its Regional Office, Chennai, SEIAA, A.P, Zonal Office of Central Pollution Control Board, Bangalore, District Collector and A.P. Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions including results of monitored data on their websites and shall update the same periodically	The industry submitted the compliance reports.
vi	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, PM10, PM2.5, S02, NOx Ammonia, VOCs monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board	The industry has provided three CAAQM stations only. One AAQM station is to be installed.
vii	Data on ambient air quality (RPM, SPM, PM10, PM2.5, SO2, NOx, Ammonia, VOCs) should be regularly submitted to the Ministry including its Regional Office located at Bangalore and the State Pollution Control Board Central Pollution Control Board once in six months	The data is being submitted to the MoE&F & APPCB.
viii	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects	Being followed.
ix	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Occupational health surveillance program done once in every six months
x	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	A separate Environmental Management Cell was established with laboratory facilities.
xi	The funds of earmarked for environmental protection measures (Capital cost of Rs.60 Crores & Recurring cost of Rs.6 Crores/annum) should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA, Ministry and its Regional Office located at Bangalore.	The industry informed that they are complying.
xii	At least 2% of the total project cost shall be allocated for Corporate Environment Responsibility	The industry informed that they are complying.

	(CER) and item-wise details along with time bound action plan shall be prepared in accordance to the MoEF & CC's office Memorandum No.F.No.22-65/2017-IA.III,dated.01.05.2018 and submit to the SEIAA, A.P and Ministry's Regional Office, Chennai	
xiii	The Regional Office of MOEF&CC located at Chennai The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board Shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	The MoEF&CC & APPCB are monitoring the compliance.
xiv	The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Submitted.
xv	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and SEIAA, AP, This order shall be displayed in the website of the project proponent.	Published on 12.12.2018.
xvi	The SEIAA or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	--
xvii	Any appeal against this Environmental 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	--
xviii	The company shall undertake eco-development measures including community welfare measures in the project area.	The industry is doing community welfare projects such as RO plants, school buildings, modernized kitchen to school children and skill developments etc., under CSR activity.
xix	The proponent shall obtain all other mandatory clearances from respective departments.	Obtained.
xx	Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	--
xxi	The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/ modify the above conditions or stipulate any further condition in the interest of environment protection.	--
xxii	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention &	--

	Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	

ANNEXURE – II

COMPLIANCE ON CONDITIONS OF CFE ORDER DATED: 31.01.2019

<table>
<tr><th>Sl. No</th><th>Conditions</th><th>Compliance</th></tr>
<tr><td>1.</td><td>The proponent shall obtain Consent for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the trail runs.</td><td>The industry has obtained CFO.</td></tr>
<tr><td>2.</td><td>The applicant shall provide separate energy meters for Effluent Treatment Plant (ETP) and Air pollution Control equipments to record energy consumed. An alternative electric power source sufficient to operate all pollution control systems shall be provided.</td><td>The industry has provided separate energy meters for the ETP and Air Pollution Control Equipment attached to Boilers.</td></tr>
<tr><td>3.</td><td>The industry shall construct separate storm water drains. No effluents shall be discharged in to the storm water drains.</td><td>Constructed separate storm water drains but required to be isolated.</td></tr>
<tr><td>4.</td><td>Water:
The source of water is river bed of Gosthani River through bore wells and the maximum permitted water consumption is as following:

<table>
<tr><th rowspan="2">S. No</th><th rowspan="2">Purpose</th><th rowspan="2">Quantity permitted as per EC dt 27.11.2018)</th><th colspan="3">Quantity as per CFE (EXP) order dated 25.12.2018 (KLD)</th><th colspan="3">Quantity after Change of Product Mix (KLD)</th></tr>
<tr><th>Fresh</th><th>Recycled</th><th>Total</th><th>Fresh</th><th>Recycled</th><th>Total</th></tr>
<tr><td>1.</td><td>Process</td><td rowspan="8">5942 KLD</td><td>652</td><td>0</td><td>652</td><td>652</td><td>0</td><td>652</td></tr>
<tr><td>2.</td><td>Washings</td><td>400</td><td>0</td><td>400</td><td>400</td><td>0</td><td>400</td></tr>
<tr><td>3.</td><td>Boiler feed</td><td>700</td><td>800</td><td>1500</td><td>700</td><td>800</td><td>1500</td></tr>
<tr><td>4.</td><td>Cooling</td><td>490</td><td>510</td><td>1000</td><td>490</td><td>510</td><td>1000</td></tr>
<tr><td>5.</td><td>Softener/DM plant/RO Plant</td><td>500</td><td>0</td><td>500</td><td>500</td><td>0</td><td>500</td></tr>
<tr><td>6.</td><td>Domestic and Township</td><td>600</td><td>0</td><td>600</td><td>600</td><td>0</td><td>600</td></tr>
<tr><td>7.</td><td>Others (incinerator scrubbing)</td><td>50</td><td>0</td><td>50</td><td>50</td><td>0</td><td>50</td></tr>
<tr><td>8.</td><td>For green belt</td><td>700</td><td>540</td><td>1240</td><td>700</td><td>540</td><td>1240</td></tr>
<tr><td></td><td>Sub Total</td><td>---</td><td>4092</td><td>1850</td><td>5942</td><td>4092</td><td>1850</td><td>5942</td></tr>
<tr><td></td><td>Total</td><td>5942 KLD (fresh water 4092 KLD+ recycled 1850 KLD)</td><td colspan="3">5942.0</td><td colspan="3">5942.0</td></tr>
</table>
Separate meters with necessary pipe-line shall be provided for assessing the quantity of water used for each of the purposes mentioned above.

Compliance : The present source of water consumption is through Borewells located at</td></tr>
</table>

the River bed of Gostani river and desalination plant.
The industry provided separate pipelines with flow meters for assessing the quantity of water consumption.

5. The maximum waste water generation shall not exceed the following:

Sl. No.	Outlet Description	Quantity permitted as per EC dt 27.11.2018	Quantity permitted as per CFE (EXP) order dt 25.12.2018 (KLD)		Quantity Change of Product Mix (KLD)	
1.	Process	**3737 KLD**	797.0	HTDS –124.59	797.0	HTDS –124.59
				LTDS – 79.83		LTDS – 79.83
				High COD – 197.10(149.18 +47.92)		High COD – 197.10(149.18 +47.92)
				High TDS & High COD – 256.2		High TDS & High COD – 256.2
				Nacl effluent -117.0		Nacl effluent - 117.0
				Phosphate effluent – 12.0 KLD		Phosphate effluent – 12.0 KLD
				Nitrate Effluent - 7.2 KLD		Nitrate Effluent - 7.2 KLD
				Metal Bearing - 3.08		Metal Bearing - 3.08
2.	Washings (floor)		400.0		400.0	
3.	Boiler blow down		850.0		850.0	
4.	Cooling blow down		600.0		600.0	
5.	Softener / DM plant / RO Plant		500.0		500.0	
6.	Domestic and Township		540.0		540.0	
7.	Others (incinerator scrubbing)		50.0		50.0	
	Total	**3737 KLD (1850 KLD reused + 1887 KLD Marine discharge)**	**3737 KLD (1850 KLD reused + 1887 KLD Marine discharge)**		**3737 KLD (1850 KLD reused + 1887 KLD Marine discharge)**	

Treatment & disposal:

Source of effluent	Treatment	Mode of final disposal
HTDS - Process,	MEE (13.5 KL/hr) & ATFD (3.5 Kl/hr). MEE condensate and ATFD condensate mixed with low TDS effluents.	The treated water is to be discharged into the Sea through marine outfall.
HIGH COD - Process	Stripper (15 KL/hr). Stripper condensate to cement industries. Stripped off effluent to ETP. The treated water is to be discharged into the Sea through marine outfall.	Stripper (15 KL/hr). Stripper condensate to cement industries. Stripped off effluent to ETP. The treated water is to be discharged into the Sea through marine outfall.

		HTDS &HCOD Process Stripper (15 KL/hr) MEE (13.5 KL/hr) & ATFD (3.5 Kl/hr) Stripper	MEE condensate and ATFD condensate mixed with low TDS effluents. The treated water is to be discharged into the Sea through marine outfall.	HTDS &HCOD Process Stripper (15 KL/hr) MEE (13.5 KL/hr) & ATFD (3.5 Kl/hr) Stripper	
		LTDS	Process, Washing ETP consists of Oil & Grease traps, Equalisation cum neutralisation tanks (4 Nos.), Primary settling tanks, Aeration tanks (4 Nos.), Settling tanks (4 Nos.), Sludge drying beds, Temporary storage tanks (4 Nos.), Guard ponds (6 Nos. x 1838 cum), RO Plant (4 Nos. x 25 m 3 /annum) The treated water is to be discharged into the Sea through marine outfall.	LTDS	
		LTDS Boiler blow down	Cooling tower blow down & DM plant/ Raw RO Plant rejects Wastewater is to be treated in the central monitoring basin and recycled.	LTDS Boiler blow down	
		Nacl effluent Neutralization The treated water is to be discharged into the Sea through marine outfall.	Nacl effluent Neutralization The treated water is to be discharged into the Sea through marine outfall.	Nacl effluent Neutralization The treated water is to be discharged into the Sea through marine outfall.	
		Domestic STPs Shall be used for greenbelt development after treatment in STPs (4 STPs of total 800 KL capacity).	Domestic STPs Shall be used for greenbelt development after treatment in STPs (4 STPs of total 800 KL capacity).	Domestic STPs Shall be used for greenbelt development after treatment in STPs (4 STPs of total 800 KL capacity).	
	Compliance : Total average effluent generation is 472.0 KLD against consented capacity 1887 KLD. This condition may be examined for modification by reducing the no of streams.				
6.	The treatment system consisting of stripper, MEE, ATFD system with condenser and Biological ETP, RO plant shall be installed and commissioned. All the units shall be impervious to prevent ground water pollution. The units shall be constructed above the ground level. Effluents shall not be discharged on land or into any water bodies or aquifers under any circumstances.		The industry has stripper, MEE, ATFD and biological ETP. The existing biological ETP was established by converting one of the big clarifier of old unit constructed on ground level. New ETP on above the ground units are under construction.		
7.	The industry shall provide digital flow meters with totalisers at the inlet and outlet of Stripper, MEE, ETP and RO.		The industry has provided electromagnetic flow meters for wastewater generation. The industry has digital flow meters at MEE feed, ATFD feed, at ETP outlet and at Marine outfall.		
8.	The industry shall properly operate and maintain online real time monitoring system along with web camera facilities and shall ensure that it is connected to APPCB / CPCB websites as per CPCB directions.		The industry has provided online CEMS and online marine discharge parameters pH, TSS, COD, BOD and flow monitoring systems and is displayed in the CPCB & APPCB website.		
9.	Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe		Floor washing are admitted into the effluent collection system.		

	valves, sewers, drains shall be leak proof.	
10.	The desalination plant shall not be located in CRZ area as committed vide lr.dt. 22.01.2019. The cost of Desalination plant was included in the additional investment of Rs. 150 Crores for which CFE order dt. 25.12.2018 was issued.	The desalination plant was constructed beyond the CRZ area.
11.	**Air:** The Air pollution Control equipment shall be installed along with the commissioning of the activity and shall comply with the following for controlling air pollution.	

Sl. No	Source of Pollution	Control equipment	Stack height
1	Incinerator: - 1 No. Capacity - 9000 KGPD Type – Hazardous waste Fuel used - Diesel - 0.6 KLD.	Spray dryer, Quencher, Scrubber, dust collector & bag filters	30 m
2	2 X 16 TPH Coal fired boiler (1 No. standby)	Dust collector followed by bag filters for each 16 TPH boiler.	Common stack attached to 2X16 TPH boilers with stack height of 35 m.
3	1 x 24 TPH coal Fired Boiler	Electrostatic precipitator	35m
4	1 x 6 TPH Coal fired boiler	Multi cyclones to the other boilers 6 TPH & 2 TPH.	Common stack height of 30 m
5	1 x 2 TPH Coal fired boiler (Standby)		
6	1 X 24 TPH Coal fired boiler (3 X 8 TPH FBC out of which 1 No. 8 TPH is standby)	Electrostatic precipitators	35 m
7	1 X 24 TPH Coal fired boiler	Electrostatic precipitators	35 m
8	Generator Set (s): No. of generators with capacities – i. 10 X1250 KVA, ii. 14X 1500 KVA, iii. 2 X 320 KVA, iv. 2 X 125 KVA, v. 2X1000 KVA, vi. 1X62.5 KVA, vii. 1X10 KVA	Silencers and acoustic enclosures	15 m each (for 1000 KVA,1250 KVA and 1500 KVA)
9	Process Emissions Source of process emission – Reactors, Product and raw material handling	Water scrubbers and Alkali scrubbers Vents, condensers and sub coolers. All vents of solvent storage tanks shall be dipped into water drum.	---

	Compliance: During inspection, the incinerator, 1 X 16 TPH boilers, 1 X 6 TPH boiler are not in operation and 1 X 2 TPH boiler is Dismantled. 24 TPH 2nd boiler and 3 X 8 TPH boilers are under erection. Only 1 X 16 TPH boiler and 1 X 24 TPH boiler are in operation. Online stack emission monitoring systems is provided to the 24 TPH boiler and incinerator and connected to the web site of APPCB.	
12.	A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. A platform with suitable ladder shall be provided below 1 meter	Provided.

	of sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.	
13.	The industry shall properly operate and maintain the monitoring system to all the stacks / vents in the plant. Regular monitoring shall be carried out and report shall be submitted to the Regional officer.	The industry submitted the monitoring reports.
14.	The industry shall properly operate and maintain multi-stage scrubbers to the process vents to control the process emissions. The industry shall ensure that online pH measuring facility with auto recording system is connected to the scrubbers	The industry has provided online pH meters to the scrubbers. Data loggers connected central control rooms are required to be provided.
15.	The industry shall provide VOC monitoring system with auto recording facility.	The industry has provided VOC monitoring system with auto recording facility.
16.	The industry shall implement adequate measures to control all fugitive emissions from the plant.	Characteristic solvent smell in and around the ETP area and SRU area was observed.
17.	The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, GoI vide notification No. GSR. 826 (E), dated. 16.11.2009 during construction and regular operational phase of the project at the periphery. The generator shall be installed in a closed area with a silencer and suitable noise absorption systems. The ambient noise level shall not exceed 75 dB(A) during day time and 70 dB(A) during night time.	The generators are provided with acoustic enclosures.
18.	The proponent shall not use or generate odour causing substances or Mercaptans and cause odour nuisance in the surroundings.	The industry has reported that they are not using odour causing chemicals.
19.	The industry shall send the used / spent solvents to the recyclers (or) process them at their own solvent recovery facility within the premises.	The industry is recovering the solvents in their facility and also disposing the spent mixed solvents to recyclers.
20.	The evaporation losses in solvents shall be controlled by taking the following measures: i. Chilled brine circulation shall be carried out to effectively reduce the solvent losses into the atmosphere. ii. Transfer of solvents shall be done by using pumps instead of manual handling. iii. Closed centrifuges shall be used to reduce solvent losses. iv. All the solvent storage tanks shall be connected with vent condensers to prevent solvent vapours. v. The reactor vents shall be connected with primary & secondary condensers to prevent escaping of solvent vapour emissions into atmosphere.	i. Provided ii. Being followed iii. Complied iv. Provided v. The industry has provided water through.
21.	Solid / Hazardous Waste: The industry shall comply with the following for disposal of Solid wastes:	

S. No	Name of the Solid / Hazardous waste	Quantity permitted as per EC dt 27.11.2018	Quantity permitted as per CFE order dt 25.12.2018	Quantity after Change of product mix	Method of Disposal

14.	Process residue	5272 kg/day	5272 kg/day	5272 kg/day	To the authorized Cement industries for Co-processing (or) TSDF, Parawada for incineration
15.	Spent carbon	1200 kg/day	1200 kg/day	1200 kg/day	
16.	Off specified & Discarded raw materials, lab chemicals & products	50 kg/day	50 kg/day	50 kg/day	
17.	Multiple effect evaporation or forced evaporation salts	664 kg/day	664 kg/day	664 kg/day	To TSDF, Parawada, Visakhapatnam District for secured land filling.
18.	ETP sludge	340 kg/day	340 kg/day	340 kg/day	
19.	Incineration ash	130 kg/day	130 kg/day	130 kg/day	
20.	Spent solvents	440 Kl/day	440 Kl/day	440 Kl/day	Shall be recovered within the premises / to authorised agency for recovery.
21.	Mixed spent solvent	140 Kl/day	140 Kl/day	140 Kl/day	To authorized recovery units / Authorized cement plant for coprocessing.
22.	Spent acids	60 Kl/day	60 Kl/day	60 Kl/day	To authorized agencies.
23.	Spent catalysts	3400 kg/Month	3400 kg/Month	3400 kg/Month	To the Supplier for recovery
24.	Containers & Container liners of Hazardous chemicals & Hazardous wastes.	Containers – 3400 Nos. /Month & Liners – 8500 kg/Month	Containers – 3400 Nos. /Month & Liners – 8500 kg/Month	Containers – 3400 Nos. /Month & Liners – 8500 kg/Month	To authorized agencies, after complete detoxification for reuse/ recycle.
25.	Used Oil / Waste lubricant Oil	340 lts/Month	340 lts/Month	340 lts/Month	Shall be used as lubricant within the premises / to authorized Reprocessors / Recyclers / to the Cement industries for co-processing.
26.	Insulation Waste and Puff	2 TPD	2 TPD	2 TPD	To authorized agencies (or) TSDF, Parawada / Cement Industries.

Non-Hazardous Solid Waste details : : as per EC dt 01.08.2017

S.No	Salt description	Quantity after expansion
1.	KCl / K2SO4	280.21 kg/day
2.	NaSO4	1097.42 kg/day
3.	Sodium Acetate	268.37 kg/day
4.	Wet Iron Sludge	135.4 kg/day

Compliance: The industry is disposing organic residue, spent carbon & mixed spent solvent to authorized cement industries for co-processing, salts from MEE, ETP sludge & Incineration ash to TSDF, Parawada for land fill. Spent acids disposed to Alum units and

	Spent catalysts are disposed to suppliers. Details are submitted in the main report.	
22.	The proponent shall place the chemical drums and / or any drums in a shed provided with concrete platform only. The Platform shall be provided with sufficient dyke wall and effluent collection system. The industry shall provide containers detoxification facility. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.	The industry is string the raw materials under shed.
23.	The following rules and regulations notified by the MoE&F, GoI shall be implemented. a. Hazardous waste and other wastes (Management and Transboundary Movement) Rules, 2016. b. Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 c. Fly Ash Notification, 2016. d. Batteries (Management & Handling) Rules, 2010. e. E-Waste (Management) Rules, 2016. f. Construction and Demolition waste Management Rules, 2016.	The industry was instructed to follow the same.
	Other Conditions:	
24.	The industry shall obtain CRZ Clearance as per the applicability.	The industry has not yet obtained the CRZ clearance. The industry informed that the CRZ studies done by M/s. Indomer, Chennai and submitted application dated 04.02.2020 for obtaining CRZ clearance.
25.	The industry vide lr.dt. 22.01.2019 committed that they have stand by capacity for production as well as scrubbers, MEE, treatment facilities and utilities required	The industry is having ETP to treat the effluent generated.
26.	Existing green belt shall not be disturbed due to the proposed expansion. Thick green belt shall be maintained all along the boundary & vacant spaces with tall growing trees with good canopy and it shall not be less than 33% of the total area.	The industry has planted around 2.24 Lakh saplings in and around the premises in an area 220 Ac out of total area 495 Ac.
27.	The industry shall submit the information regarding usage of Ozone Depleting Substance once in six months to the Regional Office and Zonal Office of the Board.	The industry informed that they are not using Ozone Depleting Substances.
28.	Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order and attract action under the provisions of relevant pollution control Acts.	----
29.	Notwithstanding anything contained in this conditional consent, the Board hereby reserves its right and power under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke in the order, review any or all the conditions imposed herein and to make such alternation as deemed fit and stipulate	----

	any additional conditions or revoke the order in the interest of environment protection.	
30.	Any person aggrieved with this order may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to the Appellate Authority constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.	----

ANNEXURE – III

COMPLIANCE ON CONDITIONS OF CFO ORDER DATED:06.03.2019

SCHEDULE-A		
Sr. No	**Conditions**	**Compliance**
01	Any up-set condition in any industrial plant / activity of the Industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.	The industry was instructed the same.
02	The industry should carry out analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.	The industry is carrying Waste water Analysis with third party and submitting to the Board
03	All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.	The industry has valid PLI policy.
04	The industry should put up two sign boards (6x4 ft. each) at publicly visible places at the main gate indicating the products, effluent discharge standards, air emission standards, hazardous waste quantities and validity of CFO and exhibit the CFO order at a prominent place in the factory premises.	Provided at gate.
05	Notwithstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.	--
06	The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E(P) Rules, 1986 & amendments thereof..	The industry is submitting Environmental statement in FORM-V to the Board.
07	The applicant should make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and	The industry was advised to follow the same.

	Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board. The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of Emissions. Any change in the management shall be informed to the Board. The person authorized should not let out the premises / lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.	
08	Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.	--

SCHEDULE-B

1.	The industry shall handover the original Consent order No. APPCB/ VSP/VSP/12368/ HO/CFO/2016, dated 04.10.2016 having validity up to 30.11.2021 to the RO, Visakhapatnam after receipt of this order and the same stands cancelled from the date of receipt of this order.	The industry has submitted the original Consent order to the Board.
WATER POLLUTION:		
2.	The source of water is river bed of Gosthani River through bore wells / proposed desalination plant. The following is the permitted water consumption:	The present source of water consumption is through Borewells located at the River bed of Gostani river and desalination plant. As per the records the water consumption is 2220 KLD (average) against the permitted quantity of 4092 KLD during the period from Sept'19 to Feb'20.

S. No	Purpose	Quantity (KLD)		
		Fresh	Recycled	Total
1.	Process	652	0	652
2.	Washings	400	0	400
3.	Boiler feed	700	800	1500
4.	Cooling	490	510	1000
5.	Softener/DM plant/RO Plant	500	0	500
6.	Domestic and Township	600	0	600
7.	Others (incinerator scrubbing)	50	0	50
8.	For green belt	700	540	1240
	Sub Total	**4092**	**1850**	**5942**
	Total	**5942.0**		

4.	Digital flow meters with totalizers with necessary	The industry has provided Digital flow

<table>
<tr><td></td><td>pipelines shall be provided so as to assess the water used for different purposes within 1 month and maintain them properly and also maintain the records of the readings.</td><td>meters with totalizers to assess the water used for different purposes. The industry is maintaining records.</td></tr>
<tr><td>5.</td><td>The industry shall segregate the effluents into high TDS, high COD, Low TDS and other streams at source. The effluent discharged shall comply with the tolerance limits mentioned below:
<table>
<tr><th>Outlet</th><th>Parameter</th><th>Limiting Standards (mg/l except for pH)</th></tr>
<tr><td>1 to 7</td><td>pH</td><td>6.50 – 8.50</td></tr>
<tr><td></td><td>BOD</td><td>75.00</td></tr>
<tr><td></td><td>COD</td><td>225.00</td></tr>
<tr><td></td><td>Bioassay test</td><td>90 percent survival of fish after 96 hours in 100% effluent</td></tr>
<tr><td></td><td>Suspended</td><td>100</td></tr>
<tr><td></td><td>Arsenic</td><td>0.10</td></tr>
<tr><td></td><td>Mercury</td><td>0.00</td></tr>
<tr><td></td><td>Lead</td><td>1.00</td></tr>
<tr><td></td><td>Cadmium</td><td>1.00</td></tr>
<tr><td></td><td>Hexavalent</td><td>0.50</td></tr>
<tr><td></td><td>Total</td><td>1.00</td></tr>
<tr><td></td><td>Copper</td><td>2.00</td></tr>
<tr><td></td><td>Zinc</td><td>10.00</td></tr>
<tr><td></td><td>Selenium</td><td>0.05</td></tr>
<tr><td></td><td>Oil and Grease</td><td>10.00</td></tr>
<tr><td></td><td>Phenols</td><td>5.00</td></tr>
<tr><td></td><td>Free Ammonia</td><td>3.00</td></tr>
<tr><td></td><td>Phosphate</td><td>0.5</td></tr>
<tr><td></td><td>Cyanide</td><td>0.1</td></tr>
<tr><td>8.</td><td>pH</td><td>5.50 – 9.00</td></tr>
<tr><td></td><td>Total Suspended</td><td>200.00</td></tr>
<tr><td></td><td>Phosphate as</td><td>5.00</td></tr>
<tr><td></td><td>Oil and Grease</td><td>10.00</td></tr>
<tr><td></td><td>Biochemical Oxygen Demand (BOD_3 at 27^0C)</td><td>30.00</td></tr>
</table></td><td>The industry is segregating the effluent streams into HTDS, HCOD & LTDs streams. The HTDS and HCOD streams are subjected to stripper, MEE followed by ATFD. The MEE condensate and the ATFD condensate are being treated with LTDS effluent. The HCOD effluents are subjected to the stripper.</td></tr>
<tr><td>6.</td><td>The industry shall provide advanced effluent treatment facilities such as stripper, MEE, ATFD & biological ETP with additional features like Oxygen dosing for reduction of COD within 3 months as informed during the CFO committee meeting held on 28.02.2019. After completion of new effluent treatment facility, existing stripper, MEE, ATFD & biological ETP shall be kept as standby facility.</td><td>The new ETP is under construction</td></tr>
<tr><td>7.</td><td>The industry shall maintain Electro Magnetic flow meters for water and effluent quantity measurements for different streams of effluents and different categories of water usage stipulated in this order. Also, the industry shall maintain digital magnetic flow meters at guard pond outlets to measure effluents discharge into Sea.</td><td>The industry has Electro Magnetic flow meters for water and the effluent quantity measurements for different streams of effluent and for the different categories of water usage. The industry has online digital magnetic flow meter at guard pond of the effective measuring of the effluent discharge into sea.</td></tr>
</table>

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8.	The industry shall regularly operate Stripper, MEE, ATFD and ETP and the consolidated daily records on the details of effluent generated, quantity of treated, effluents evaporated in the Forced Evaporation system, quantity of condensate generation & characteristics, solid waste generation shall be submitted to the Regional office, Visakhapatnam for every month.	The industry is treating effluent streams of HTDS, HCOD in the stripper followed by the MEE and ATFD. The quantities of effluent treated, Evaporated and the outcome of condensate is recorded in the records and are being submitting to the regional office, Visakhapatnam.
9.	The industry shall comply with CPCB directions dated 05.02.2014 / 02.03.2015 and other subsequent directions regarding installation of online effluent monitoring systems.	The industry has online monitoring station and the values obtained in that station before discharge is updating to both APPCB and CPPCB servers.
10.	The industry shall maintain a separate register for high TDS, high COD, Low TDS, Heavy metal, Cyanide, Nitrate, and Phosphate bearing effluents.	The industry is maintaining separate registers for the HTDS, HCOD, LTDS, Heavy metals.
11.	The industry shall maintain Bio-assay testing facility by providing 4 guard ponds with proper lining and leak proof construction each with Two days capacity shall be made to receive the ETP effluent before it is pumped for marine disposal. Only three guard ponds will be operational at a time and one will be kept empty in reserve to receive the effluent in case of system failure indicated by bio monitoring	The industry is carrying out Bio-assay tests within their laboratory.
12.	The Industry shall regularly monitor the effluent quality before discharging into the sea. The treated effluent shall be discharged into sea in the presence of Board officials, only if it meets the Board's Standards otherwise the effluent shall be pumped back to ETP for further treatment to meet the Board Standards	The effluent generated in the industry is discharged in to marine outfall in the presence of the APPCB officials after meeting the standards.
13.	The Industry shall contribute to the Oceanographic surveys to assess the Environmental Impact between Pydibhimavaram to Nakkapalli zone of North Andhra Coast as it was conducted earlier as per the Directions of the Board	The industry contributed to the NIO project for chemical and biological parameters in the marine environment between Pydibhimavaram to Nakkapalli zone
14.	Rain water shall not be allowed to mix with either trade or domestic Effluents.	The industry is collecting Rain water through separate storm water drains and are required to be isolated.
15.	The industry shall regularly monitor bore wells / open wells around 500 mtrs radius to assess the water quality.	The industry is carrying out monitoring of Bore wells in three villages at Chippada, Annavaram and china Nagamayya palem.
16.	The Industry shall maintain the monitoring data of each stream of effluents and arrange the data in the ETP control room.	The industry is maintaining the monitoring records for each stream of effluents.
17.	The industry shall maintain hourly meters in addition to separate energy meters to all the units of ETP and incinerator and maintain the energy Consumption records.	The industry has provided energy meters for operation of the ETP, Incinerator and maintaining registers.
18.	The drums containing chemicals / solvents / wastes shall be stored under a roof on elevated platform with a provision to collect leakages / spillages in the collection pit. There shall not be any spillages of chemicals / effluents on ground. In no case the drums shall be stored on the naked open ground.	The drums containing chemicals / solvents / wastes are being stored under a roof on elevated platform with a provision to collect leakages / spillages in the collection pit.

<table>
<tr><td>19.</td><td>The industry shall provide containers detoxification facility. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.</td><td>The industry has provided container detoxification facilities at production blocks.</td></tr>
<tr><td>20.</td><td>The industry shall maintain drum storage yard & drum washing facility with impervious liner.</td><td>The industry has separate drum storage yard and separate washing facility at production blocks area with acid proof tile lining.</td></tr>
<tr><td>21.</td><td>The industry shall maintain provision for sample collection as per directions of Regional Office before marine outfall pipeline with lock and key facility.</td><td>A Sample collection point provided at before marine outfall pipeline with lock and key system.</td></tr>
<tr><td colspan="3">AIR POLLUTION:</td></tr>
<tr><td>22.</td><td>The emissions shall not contain constituents in excess of the prescribed limits mentioned below:
<table>
<tr><th>Chimney No.</th><th>Parameter</th><th>Emission Standards</th></tr>
<tr><td>1</td><td>Particulates</td><td>30 mg/Nm3</td></tr>
<tr><td></td><td>HCl</td><td>50 mg/Nm3</td></tr>
<tr><td></td><td>SO2</td><td>200 mg/Nm3</td></tr>
<tr><td></td><td>CO</td><td>100 mg/Nm3</td></tr>
<tr><td></td><td>Total Organic</td><td>20 mg/Nm3</td></tr>
<tr><td></td><td>HF</td><td>4 mg/Nm3</td></tr>
<tr><td></td><td>NOX</td><td>400 mg/Nm3</td></tr>
<tr><td></td><td>Hydrocarbons</td><td>10 PPM</td></tr>
<tr><td></td><td>Dioxins/Furans</td><td>0.1 ng TEQ/Nm3</td></tr>
<tr><td></td><td>Metals</td><td></td></tr>
<tr><td></td><td>Cd + Th (and its</td><td>0.05 mg/Nm3</td></tr>
<tr><td></td><td>Hg (and its</td><td>0.05 mg/Nm3</td></tr>
<tr><td></td><td>Sb + As +Pb + Cr + Co + Cu + Mn</td><td>0.5 mg/Nm3</td></tr>
<tr><td>2 to 6</td><td>Particulate</td><td>115 mg/N</td></tr>
<tr><td>Proces</td><td>Acid Mist</td><td>35 mg/Nm³</td></tr>
</table></td><td>All stack values are below the prescribed limits.</td></tr>
<tr><td>23.</td><td>The industry shall comply with ambient air quality standards of PM10 (Particulate Matter size less than 10 microns) - 100 micro gram/ m3; PM2.5 (Particulate Matter size less than 2.5 microns) - 60 micro gram/m3; SO2 - 80 micro gram/ m3; NOx - 80 micro gram/m3, Ammonia – 400 micro gram/ m3 at the periphery of the industry. Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009. Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A) Night time (10 PM to 6 AM) - 70 dB (A)</td><td>The results are within the limits. Continuous online ambient air quality Monitoring stations were installed and being monitored continuously. The monitoring data is continuously uploading to APPCB server.</td></tr>
<tr><td>24.</td><td>The industry shall operate three (3) CAAQM stations for monitoring SPM, SO2, NOx, VOCs, and Ammonia with recording facility and connected to PCB website.</td><td>The industry has installed CAAQM Stations for monitoring SPM, SO2, NOx, VOCs and Ammonia with recording facility and connected to PCB Website.</td></tr>
<tr><td>25.</td><td>The industry shall comply with emission limits for DG sets of capacity up to 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 and G.S.R.448 (E), dated 12.07.2004 under the Environment (Protection) Act Rules. In case of DG sets of capacity more than 800 KW shall comply</td><td>Complied</td></tr>
</table>

	with emission limits as per the Notification G. S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.	
26.	The evaporation losses in solvents shall be controlled by taking suitable measures, which include: i. Chilled brine circulation to effectively reduce the solvent losses into the atmosphere. ii. Transfer of solvents by using pumps and closed conveyance instead of manual handling. iii. Closed centrifuges/ANFDs be used due to which solvent losses are reduced drastically. iv. The reactor vents connected with primary & secondary condensers to catch the solvent vapours. v. All the solvent storage tanks are connected with vent condensers to prevent solvent vapours.	Complied vi. Provided vii. Complied iii. Complied ix. Provided The industry has provided water through.
12.	The industry shall maintain online stack analyser for 24 TPH boiler connected to the Board and maintain records	Online stack analyser were installed for 24 TPH Boiler and connected to PCB web site.
13.	The industry shall maintain continuous stack analyser attached to Incinerator to APPCB website.	Online stack analyser was installed for incinerator and connected to PCB web site.
14.	The industry shall operate the two stage scrubbers with online pH meters to scrub process emissions at all emission sources. The details of chemicals consumption used in the scrubber shall be recorded & kept accessible for the inspecting officials of the Board.	The industry has installed 95 nos of multi stage scrubbers with On line pH meters and installed simple scrubbing systems.
15.	The industry shall take adequate measures to avoid smell nuisance in the surroundings. Industry shall carry odour assessment study through reputed agency and submit report in one month.	The industry has taken measures to avoid smell nuisance in the surroundings using scrubbers, treatment facilities, absorbers, etc.
16.	The industry shall comply with the Regulation of Persistent Organic Pollutants Rules, 2018 notified by the MoEF&CC Notification vide G.S.R. 207 (E) dated 30.05.2018. As per the notification, the following 7 chemicals are prohibited to manufacturer, trade, use, import and export: i. Chlordecone, ii. Hexabromobiphenyl, iii. Hexabromodiphenyl ether and heptabromodiphenyl ether commercial octa-BDE), iv. Tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial penta-BDE), v. Pentachlorobenzene, vi. Hexabromocyclododecane and vii. Hexachlorobutadine.	The industry is not using and generating any POP's.
17.	There shall not be any POPs generation from process operations.	The industry is not generating any POP's in production process.
18.	The emissions containing Bromine gases shall be routed through water Scrubber, caustic scrubber provide in series. The vent of the caustic Scrubber shall be dipped into dilute caustic soda lye for effective removal of Bromine in the emissions.	The industry has provided scrubber for Bromine Gasses emitted at B block. The industry has installed bromine recovery.

<table>
<tr><td colspan="3">GENERAL:</td></tr>
<tr><td>19.</td><td>The industry shall not manufacture any product other than those mentioned in this order.</td><td>Complied.</td></tr>
<tr><td>20.</td><td>The industry shall maintain records on source of intermediates for each Product-wise, inventory of solvents and the consolidated records shall be submitted to R.O., Visakhapatnam for every month along with invoice copies of the intermediates outsourced.</td><td>The industry is submitting details on monthly basis.</td></tr>
<tr><td>21.</td><td>The industry shall evaluate the performance of solvent recovery system regularly for each stream-wise and shall maintain the solvent recovery Efficiency more than 95% for every stream.</td><td>---</td></tr>
<tr><td>22.</td><td>The industry shall take all safety measures and provide firefighting Equipment in the plant.</td><td>Complied</td></tr>
<tr><td>23.</td><td>The industry shall comply with the directions issued by the Board from time to time.</td><td>The industry was directed to follow the same.</td></tr>
<tr><td>24.</td><td>The industry shall maintain the following records and the same shall be made available to the inspecting officers of the Board:

a. Daily production details (ER-1 Central Excise Returns).
b. Quantity of Effluents generated, treated, recycled/reused.
c. Log Books for pollution control systems.
d. Characteristics of effluents and emissions.
e. Hazardous/non-hazardous solid waste generated and disposed.
f. Inspection book.
g. Manifest copies of effluents / hazardous waste.</td><td>A) Complied
B) Compiled
C) Compiled
D) Compiled
E) Compiled
F) Compiled
G) Compiled</td></tr>
<tr><td>25.</td><td>There shall not be any new pollution load at on-site of the premises resulting from reception, handling and disposal of the following process salts at source of the industry.
<table>
<tr><th>S. No</th><th>Salt description</th><th>Source of generation</th><th>Quantity of generation</th></tr>
<tr><td>1.</td><td>KCl/K_2SO_4</td><td>Process</td><td>280.21 Kgs/day</td></tr>
<tr><td>2.</td><td>$NaSO_4$</td><td>Process</td><td>1097.42 Kgs/day</td></tr>
<tr><td>3.</td><td>Sodium Acetate</td><td>Process</td><td>268.37Kgs/day</td></tr>
<tr><td>4.</td><td>Wet Iron Sludge</td><td>Process</td><td>135.4 Kgs/day</td></tr>
</table>
The industry shall submit report to Regional Office, Visakhapatnam every month.</td><td>At present only Iron sludge is generating.</td></tr>
<tr><td>40</td><td>The industry shall develop green belt in all the vacant places. In future, excess green belt over and above 33 % of total area can be utilized for industrial activity as per requirement of industry.</td><td>The industry has planted around 2.24 Lakh saplings in and around the premises in an area 220 Ac out of total area 495 Ac.</td></tr>
<tr><td colspan="3">SCHEDULE – C</td></tr>
<tr><td>1.</td><td>The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.</td><td>--</td></tr>
<tr><td>2.</td><td>The authorisation shall be produced for inspection</td><td>--</td></tr>
</table>

	at the request of an officer authorised by the State Pollution Control Board.	
3.	The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.	--
4.	Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.	--
5.	The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;	Mock drills are being conducted.
6.	The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".	--
7.	It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.	--
8.	An application for the renewal of an authorisation shall be made as laid down under these Rules.	--
9.	Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.	--
Specific Conditions:		
10.	Annual return shall be filed by June 30th for the period ensuring 31st March of the year.	The industry has submitted the returns.
11.	The industry shall enter an agreement with the Cement industries for disposal of incinerable waste or shall dispose to Alternative Fuel Raw Material facility (AFRF) OR to TSDF for co-incineration.	The industry has an agreement with CWMP and cement industries.
12.	The industry shall transport the hazardous waste to cement industries through GPS vehicle.	Complied
13.	The industry shall not store hazardous waste for more than 90 days as per the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.	Complied
14.	The industry shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.	Complied
15.	The industry shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.	Complied
16.	The industry shall maintain proper records for Hazardous and Other Wastes stated in	Complied. The industry is maintaining records.

	Authorisation in Form-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form-4 as per Rule 20 (2) of the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.	

Submitted for favor of kind information and necessary action.

Yours faithfully,

Pothineni Ravindra Nadh

Digitally signed by Pothineni Ravindra Nadh
Date: 2020.03.21 16:23:27 +05'30'

(P. RAVINDRA NADH)
Senior Environmental Engineer,
Zonal Office, Visakhapatnam

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Divis Laboratories Limited

Lr. No: DLL-2/0520/15

Date: 16.05.2020

To
The Member Secretory
State Level Environmental Impact Assessment Authority (SEIAA),
Near Sunrise Hospital, Chalamavari Street,
Kasturibaipet, Vijayawada,
Andhra Pradesh.

Sub: **Environmental Clearance** - Bulk drugs & Intermediates manufacturing unit by M/s Divi's laboratories limited at Krishnaptnam Industrial Park, Kothapatnam (V), Kota (M), SPSR Nellore (D), Andhra Pradesh.

Ref: MoEF&CC Office Memorandum - F.No 22-25/2020-IA.III dated 13.04.2020.

Dear sir/Ma'am,

We, M/s Divi's Laboratories Limited are proposing for establishment of Bulk drugs & Intermediates manufacturing unit at Krishnaptnam Industrial Area in Survey No's 397, 401, 402, 403, 446, 676, 681, 682, 683, 700 to 709, Kothapatnam (V), Kota (M), SPSR Nellore (D), Andhra Pradesh. As per MoEF&CC Notification S.O No. 1533 dated 14.09.2006 and subsequent amendments, the project is classified as 5(f) Synthetic organic chemicals industry (bulk drugs and intermediates). In the MoEF&CC OM F.No 22-25/2020-IA.III dated 13.04.2020 the project is categorised as Category B2 as per the below mentioned mentioned statement.

*"Attention is invited to amendment of EIA Notification, 2006 vide S.O. 1223 (E) dated 27th March, 2020, wherein proposals for projects or activities in respect of Active Pharmaceutical Ingredients (API), received up to the 30th September 2020, shall be appraised, as Category 'B2' projects for expediting the prior Environmental Clearances so as to ensure drug availability or production to reduce the impact of the **Novel Corona Virus (COVID-19)**"*

Hence we request SEAC/SEIAA, Andhra Pradesh to consider our project under Category 'B2' in obtaining Environmental Clearances for enhancing the production capacity of our manufacturing unit.

We also like to inform that for the said project we have taken TOR Order No No.IA-J-11011/34/2018-IA-II(I) dated 19.03.2018 from MOEF&CC, New Delhi. The same can be kept in abeyance and process the new application under Category B2 keeping in view the present situation in the country due to COVID 19 (Novel Corona Virus).

Therefore we are herewith submitting Form 1 and Environmental Management Plan (EMP) along with necessary documents under Category B2 for further approval.

Thanking you
Yours Faithfully
For Divi's Laboratories Limited.,

S Balaji
DGM

FACTORY : Unit-2, Chippada Village, Annavaram Post, Bheemunipatnam Mandal, Visakhapatnam District, Andhra Pradesh-531 162, INDIA.
Ph. : +91-8922-248911, Fax : +91-8922-248922.
CORPORATE OFFICE : 1-72/23(P) / Divis / 303, Divi Towers, Cyber Hills, Gachibowli, Hyderabad-500 032, Telangana, India. CIN : L24110TG1990PLC011854
Ph. : +91-40-23786300, 23786400, Fax : +91-40-23786460, E-mail : mail@divislaboratories.com, Website : www.divislaboratories.com

Item No.1

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI

Original Application No. 80/2020 (SZ)

IN THE MATTER OF

Kalushya Parikshana Samithi ...Applicant(s)

With

Union of India and others. ...Respondent(s)

Date of hearing: 10.06.2020.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

For Applicant(s): Sri. Sravan Kumar & M/s. Guna Suryanarayana

For Respondent(s): Smt. Yasmeen Ali through M/s. Renuka for R 2,4 to 7.

Sri. Sai Krishnan through Sri. Lakshmi Narasimhan for R3.

Sri. Thirunavukarasu proposed appear for R11

ORDER

1. The grievance in this application is regarding the pollution caused by the respondents 8 to 10 Pharmaceutical Companies situated in

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Yadadri, Bhuvanagiri District, State of Telengana. According to the applicant, these Pharmaceutical companies are not complying with the pollution laws. They are not properly maintaining the Effluent Treatment Systems and also pollution control mechanism which they are expected to maintain as per the directions of the Pollution Control Board.

2. Further, on account of the pollution caused due to the activities of these respondents the farm activities of the local people have been affected causing their health to deteriorate. Further they are drawing excess ground water from Musi River apart from polluting the same as well by discharging untreated effluents. In fact, this has affected the environment in Choutuppal, Aregudem, Katrevu, Thangadpally, Panthangi, Lingogigude, Chintalgudem Villages in Yadadri Bhuvanagiri District. The local Grama Sabha had opposed the expansion of M/s. DIVI Laboratories Private Limited., 8th respondent herein.

3. There was a direction by this Tribunal in Original Application No. 69 of 2013 and other connected matters by judgement dated 24.10.2017 where State of Telangana as well as the Telangana State Pollution Control Board were directed to monitor the activities of the Pharmaceutical companies who were arrayed as parties in that case and also directed to constitute an expert committee to study the procedure and other pollution control mechanisms to be introduced for making the functioning of the Pharmaceuticals companies pollution free and environment friendly. In spite of the direction, no general guideline was formulated either by State of Telangana or any other committees constituted so far. That prompted the applicants to file this applications seeking the following reliefs:

It is most respectfully prayed that this Hon'ble Tribunal may be pleased to:

1. *Declare the action/inaction of the Respondent as illegal and consequently set aside the approvals granted to provide Respondents by the Government Respondents for violating the conditions and causing sever pollution in Choutuppal area of Yadadri Bhuvanagiri District in Telangana State.*

2. *Pass an order similar to the order dated 24.10.2017 in Application No. 69-72 of 2013 (SZ) to stop all further expansions in M/s. Divi's Laboratories Limited till Public hearing is done and appropriate are granted by Union of India, Ground Water Authorities etc.,*

3. *Direct the regulating authorities/TSPCB to involve the Revenue and Panchayat officials for controlling the Pollution caused by the Private Respondents in Choutuppal and adjoining villages and to remove Temporary sheds laid and around the Respondent No. 8.*

4. *Direct the State of Telangana up* ***"Choutuppal Environment Relief Fund" similar*** *to Patancheru and Bollaram Environment Relief Fund as directed in Application No. 69 to 72of 2013 (SZ) dated 24.10.2017 by the Hon'ble Tribunal.*

5. *Pass an order to assess and pay compensation to farmers for the loss of agriculture, cattle, health for 20 years as the ground water, soil in the agriculture lands got highly polluted and there is no possibility of raising any crop due to release of Effluents to underground through Bore wells.*

6. *Direct the Government Respondents to assess the damage caused to groundwater, river Musi due to*

excessive extraction/release of pollutants by the Private Respondents and impose exemplary penalty.

7. *Direct the Director of Drug Control to verify the quality of medicines and impact of using polluted water for the manufacturing of life saving medicines by the Private Respondents.*

8. *Direct the Government Respondents to provide health, safe water for drinking, agriculture to villages referred in the Application in Chooutuppal Mandal of Yadagiri Bhuvanagiri District of Telangana.*

9. *Direct the State of Telangana and Private Pharma Industries to shift the industries to Integrate Pharma City proposed in Rangareddy district by Government of Telangana.*

10. *Direct the Union Of India, Telangana State Pollution Control Board to review the Category of Pharma, Bulk Drug Industries considering the CPCB Report on Highly polluting Industrial Clusters and adverse impacts caused by the Pharma, Bulk Drug formulations industries in Patancheru-Bolaram and Choutuppal areas and declare it as Category-A, a Highly Polluting Red category industry.*

11. *Direct the Government Respondents to take action on representations made by the Applicant and to set up a permanent mechanism at the Industrial Cluster of Choutuppal to deal with the pollution and grievances of the people living near the industries.*

12. *Direct the State of Telangana to conduct land survey of the Respondent industries to find the size and need of approvals from Union of India based on the size of the industries.*

Pass any such order, as the Hon'ble Tribunal may deem fir and proper in the facts and circumstances of the case.

4. When the matter was taken for admission through Video Conference, Sri. Sravan Kumar and Sri. Guna Suryanarayana represented the applicants. Smt. Yasmeen Ali through M/s. Renuka represented respondents 2,4 to 7, Sri. Sai Krishnan through Sri. Lakshmi Narasimhan represented 3rd respondent. Sri. Thirunavukarasu proposed to appear for 11th respondent, Central Pollution Control Board. Heard, the learned counsel for the applicant and the counsel appeared for the official respondents except the 1st respondent.

5. Issue notice to 1st respondent and respondents 8 to 10 by taking necessary steps to be served through Court as well by Dusthi. If, possible the applicant is directed to serve notice by e-mail as well.

6. At present we are not going in to the question as to whether all the prayers that has been prayed for by the applicant can be granted or not? However, on going through the allegations we are satisfied that there arises a substantial question of environment requiring interference of this Tribunal to resolve the issue.

7. The applicant is directed to submit necessary requites for the purpose to this Tribunal within a week. The applicant is also directed to serve the copies of the application as well as the documents produced by them to the standing counsels appearing for the official respondents within a week.

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8. On going through the allegations in order to get a true picture, we feel it appropriate, to appoint a joint committee comprising of a Senior Officer dealing with Pharmaceuticals matters from Regional Office, Chennai, a Senior Scientist of Regional Office, Central Pollution Control Board, Chennai, Telangana State of Pollution Control Board, Director or a Senior Officer Deputed by Director, Drugs Control Administration, State of Telangana and the District Collector, Yadradri-Bhuvanagiri District, to inspect the area in question and submit a factual and action taken report , if there is any violation found.

9. The committee is directed to consider as to whether the functioning of these units have caused any impact on the ground water quality, as well as water quality in Musi River, whether the discharge from the Effluent Treatment Plant/Common Effluent Treatment Plant (ETP/CETP) functioning in the cluster or operated by the units are meeting the norms, whether there was any illegal discharge of untreated effluents by any of the Pharmaceuticals companies mentioned in the application to any water bodies, whether on account of the functioning of the unit if any damage has been caused to soil as well as water affecting the agriculture yield of the applicants or nearby agricultural fields.

10. The committee is also directed to consider the question as to whether the Government has formed a committee or published any guidelines regarding the functioning of the Pharmaceutical companies on the basis of the directions of this Tribunal in Original Application No. 69 of 2013, and if so what is the stage of its implementation and whether on account of the pollution load

generated by the Pharmaceutical companies, there is any necessity to have any categorisation change.

11. The committee is also directed to consider the question of health hazards if any, caused on account of the functioning of the units by causing pollution by discharging the effluents or emission of gases if any, which is not in conformity with the standard provided and also suggest the remedial measures on that aspect as well. If the committee wants to co opt any other expert to assist them, they are at liberty to include them also in the committee.

12. The committee is also directed to assess the environmental compensation if any violation found, and whether any remedial measures have to be taken to rectify the degradation caused to soil or water and suggest measures to restore the same to its original position.

13. The committee is directed to submit the report within a period of two months to this Tribunal through e-mail or e-filing at ngtszfiling@gmail.com.

14. The applicant is directed to submit a set of papers to the members of the committee within a week.

15. The Registry is directed to communicate this order along with the copy of the application and the documents to all the official respondents including the committee members immediately through e-mail, so as to enable them to comply with the direction and also to

file their independent response to the allegations in the application before the next hearing date.

16. For consideration of report and appearance of their parties post on 21.08.2020.

.....J.M.

(Justice K. Ramakrishnan)

O.A. 80 of 2020
10th June 2020. Sr.

.....E.M.
(Shri. Saibal Dasgupta)

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ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE :: VISAKHAPATNAM
D.No.39-33-20/4/1,Madhavadhara Vuda Colony, Visakhapatnam - 530018.

Ph : 0891-2719380

Lr. No. 2332/PCB/ZO VSP/Tech./2020 **Dt. 11.07.2020**

To
Member Secretary,
AP Pollution Control Board,
Board Office,
Vijayawada.

Sub: APPCB-ZO-VSP- M/s. Divi's Laboratories Ltd., Unit – II, Annavaram (V), Chippada (M), Visakhapatnam District- Illegal discharge of effluents without the notice and supervision of Board officials – Report submitted - Reg.

Ref:
1. Inspection report dt. 21.03.2020 of SEE, ZO, Visakhapatnam submitted to Board office vide mail dt. 21.03.2020.
2. Lr. No. 001/APPCB/CL/GEN/2020-, dt 16.04.2020 of JSO, Board office.
3. Lr. No. 2332/PCB/ZO VSP/Tech./2020, dt 28.04.2020.
4. Lr. No. DLL-2/0720/05, dt. 03.07.2020.
5. Lr. No. DLL-2/0620/47, dt. 30.06.2020.
6. Inspection of the industry on 22.07.2020 & 24.07.2020.

I. Kind attention is invited to the reference 1st cited wherein the inspection report of SEE, ZO, Visakhapatnam on M/s. Divi's Laboratories Ltd., Unit – II was submitted to Board office. The JSO, Board office inspected the industry from 11.03.2020 to 13.03.2020 and submitted the report vide reference 2nd cited. The report of JSO is herewith submitted for kind perusal. The JSO made the following inferences from the inspection.

1. The industry has generated about 9,976 (plus) tons of salt-waste (on 100% dry basis) during the period of six-month period from 01.09.2019 to 29.02.2020 as per the material balance study calculations carried out by Central Lab team during inspection. But, the industry has accounted for about 2,052 tons only by all disposal means for the said period. About 7,924 (plus) tons of salt-waste is not accounted for the said six months period. These 7,924 (plus) tons of salt-waste are not just pure salts, but, laden with high COD contributing toxic organic compounds.

   This unaccounted 7,924 (plus) tons of high COD containing salt-waste is equivalent to about 79,240 (plus) KL of 1,00,000 mg/lit TDS effluent for the said six-month period, which is equivalent to 440 (plus) KL of 1,00,000 mg/lit TDS effluent per day.

   These high TDS effluents are not just pure salt wastewaters, but, laden with high COD content (volatile & semi-volatile toxic organics). These high TDS & high COD effluents are to be subjected to MEE followed by ATFD only to convert into salts for disposal to TSDF. These effluents cannot be treated in the ETP through biological means because of high TDS content. Even if, these effluents are subjected to biological treatment in ETP, COD & BOD discharge standards cannot be met. The industry is stipulated with COD concentration limit for discharge of effluents into sea.

The industry representatives have failed to clarify where the unaccounted salt-waste of 7,924 (plus) tons has gone.

Hence, the Central Lab, APPCB team is of the view that the industry has disposed off this high COD containing salt-waste into the sea unauthorisedly through marine discharge outlet (or some other means) in the form of effluents [of about 440 (plus) KL of 1,00,000 mg/lit TDS per day].

2. An excess of about 236 KL effluent per day could be expected from the water consumption data than what the industry has actually discharged through marine outlet during the six-month period from 01.09.2019 to 29.02.2020.

3. The industry has to install meters to all the water sources (river, ground & sea water) for assessing the water consumption and wastewater generation.

4. The industry is claiming that the high COD containing effluents are subjected to stripper and the resultant condensate will be sent for incineration in cement kilns. But, this condensate will be containing good amount water along with volatile organics making it into non-incinerable solvent. Hence, this aqueous condensate is not suitable for incineration purpose. Hence, this point requires clarification from the industry.

5. Industry is not maintaining adequate concentration of MLSS in the aeration tank of ETP. MLSS to be maintained at 300 to 350 ml/lit for effective treatment of COD & BOD. But, observed during inspection that MLSS is maintained at about 70 ml/lit during inspection. Hence, effective treatment of organics in ETP is doubtful.

6. As per the industry records, it is consuming about 404 KLD water for make up in cooling towers, which is too high as per the opinion of Central Lab team.

7. The industry is discharging about 420 KLD (as per the data provided by the industry during inspection) of low TDS treated effluents into sea through marine discharge. The industry may explore the possibilities to recycle this 420 KLD treated low TDS effluents for recycling to use in the various processes. This may reduce water intake from natural resources.

8. The industry should have provided reaction mechanisms for all the products manufactured for carrying out the material balance studies by the Central Lab team in a comprehensive way.

II. The JSO, Board office recommended the following :

1. The industry may be directed to show accountability for the salt-waste of about 9,976 (plus) tons (for the period of six months from September, 2019 to February, 2020) as calculated through material balance studies during inspection of the industry between 11.03.2020 and 13.03.2020 by Central lab team.

2. An excess of about 236 KL effluent per day could be expected from the water consumption data than what the industry has actually discharged through marine outlet during the six-month period from 01.09.2019 to 29.02.2020. Clarification may be sought from the industry in this regard.

3. The industry may be directed to install water meters for all water sources (Gosthani river, ground water, sea water, etc.) to assess the water consumption and wastewater generation.

4. The industry may be directed to provide reaction mechanisms for the remaining 29 products manufactured during the said six-month period for complete assessment of salt water generation and its disposal.

5. The industry may be directed to provide the details of solvents (non-aqueous) procured, consumed, disposed off, etc. for assessment of quantity of solvent escaped into atmosphere thereby causing odour nuisance in the neighborhood.

6. The industry is claiming that the high COD containing effluents are subjected to stripper and the resultant condensate will be sent for incineration in cement kilns. But, this condensate will be containing good amount water along with volatile organics, and hence, this aqueous condensate is not suitable for incineration purpose. Explanation may be called for from the industry in this regard and the actual disposal mode of these stripper condensate waters.

7. The industry may be directed to take steps to proper maintenance MLSS (between 3000 to 3500 mg/lit) in the aeration tanks for proper stabilization of organic content (COD & BOD) in ETP. Central Lab team found that the MLSS in aeration tank is maintained less than 70 mg / lit.

8. The industry may be directed to clarify on their claim that it is consuming about 404 KLD water for make up in cooling towers, which is too high as per the opinion of Central Lab team.

9. The Zonal Office or Regional Office, Visakhapatnam Officials of APPCB may be carried out qualitative & quantitative performance evaluation of stripper, MEE, ETP, ATFD, etc.

10. The industry is discharging about 420 KLD (as per the data provided by the industry during inspection) treated effluents into sea through marine discharge. The industry may be directed to explore the possibilities to recycle this 420 KLD treated low TDS effluents to use in the various processes to reduce fresh water intake (from sea, ground or precious river water).

11. The industry shall not be permitted under any circumstances to receive / accept mother liquors, spent solvents, spent acids / alkalis, effluents for recoveries or for treatment in its premises from any other industry including its sister concern. Under the guise of these material, high TDS & high COD toxic effluents may also be received for unauthorized discharge into the sea (Bay of Bengal) thereby endangering the sea water quality.

III. The Zonal office vide reference 3rd cited called for explanation from the industry. The industry vide reference 4th cited submitted the explanation which is enclosed for kind perusal. The industry informed that no unauthorized disposals were made, all disposals followed CFO conditions, records were maintained and periodically submitted to APPCB.

IV. The Board vide CFO order dated 06.03.2019 permitted the industry the following outlets for discharge of effluents

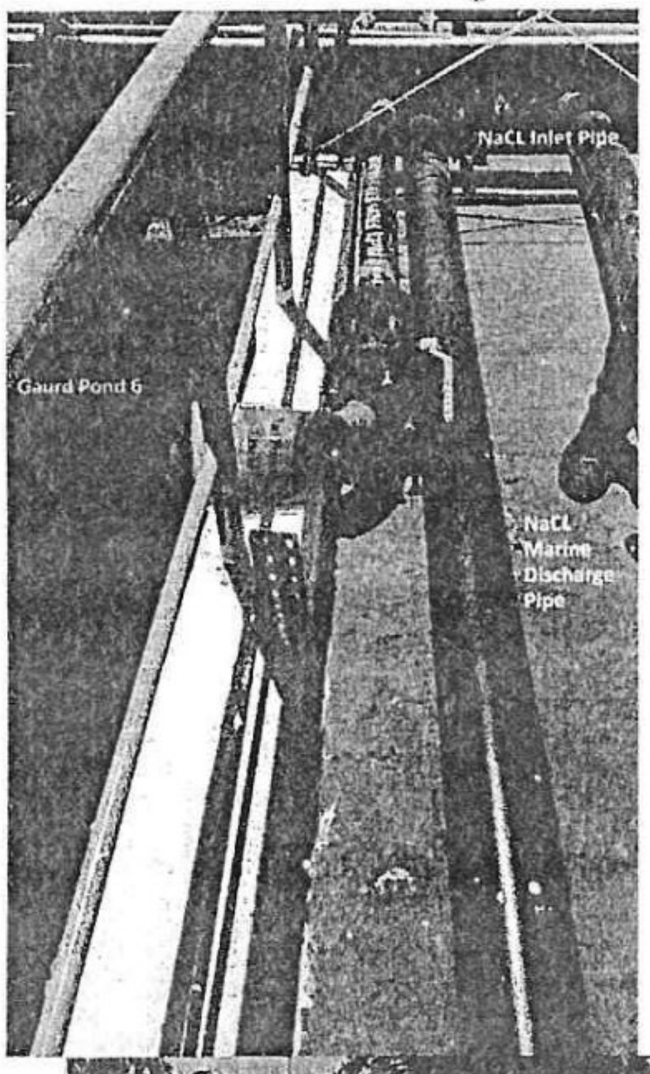
Outlet No.	Description of effluent stream	Treatment	Mode of Disposal
1.	HTDS - Process	Shall be treated in MEE (13.5 kl/hr) & ATFD (3.5 kl/hr). MEE condensate and ATFD condensate mixed with low TDS effluents	The treated waste water shall be discharged into the sea through marine outfall duly meeting the standards stipulated.
2.	High COD stream	Shall be treated in Stripper (15 KL/hr). Stripper condensate to cement industries. Stripped off effluent to ETP.	The treated waste water shall be discharged into the sea through marine outfall duly meeting the standards stipulated.
3.	HTDS & HCOD process	Shall be treated in Stripper (15 KL/hr), MEE (13.5 kl/hr) & ATFD	The treated waste water shall be discharged into the sea

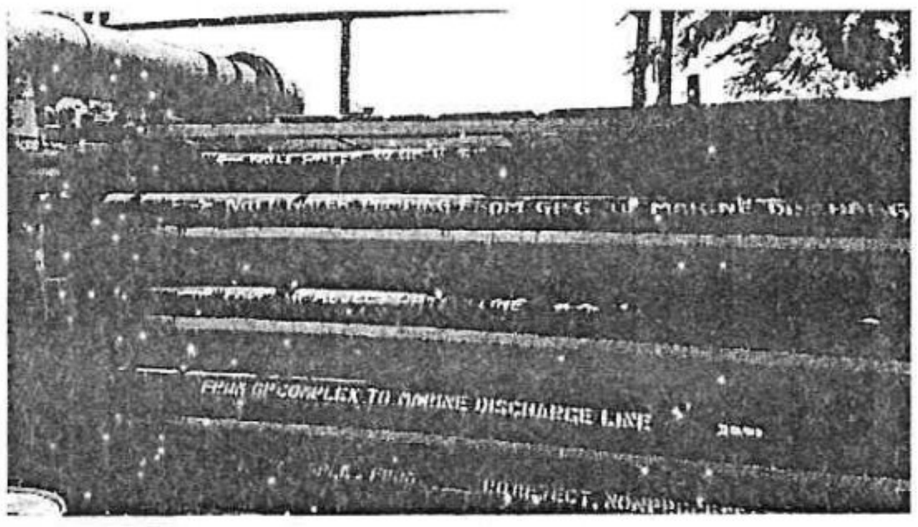
		(3.5 kl/hr). MEE condensate and ATFD condensate mixed with low TDS effluents	through marine outfall duly meeting the standards stipulated.
4.	LTDS – Process, washing	Shall be treated in the ETP consists of Oil & Grease traps, Equalisation cum neutralization tanks (4 Nos.), Primary settling tanks, Aeration tanks (4 Nos.), Settling tanks (4 Nos.), Sludge drying beds, Temporary storage tanks (4 Nos.), Guard ponds (6 Nos. x 1838 cum), RO Plant (4 Nos. x 25 m3/annum)	The treated waste water shall be discharged into the sea through marine outfall duly meeting the standards stipulated.
5.	LTDS Boiler blow down, Cooling tower blow down	Shall be treated in RO plants.	RO permeate shall be reused. RO rejects shall be discharged into the sea through marine outfall duly meeting the standards stipulated.
6.	DM plant/ Raw RO Plant rejects	Shall be neutralized.	Shall be discharged into the sea through marine outfall duly meeting the standards stipulated.
7.	NaCl stream	Neutralization	The treated water is to be discharged into the sea through marine outfall. Duly meeting the standards stipulated.
8.	Domestic	STPs	Shall be used for greenbelt development after treatment in STPs (4 STPs of total 800 KL capacity)

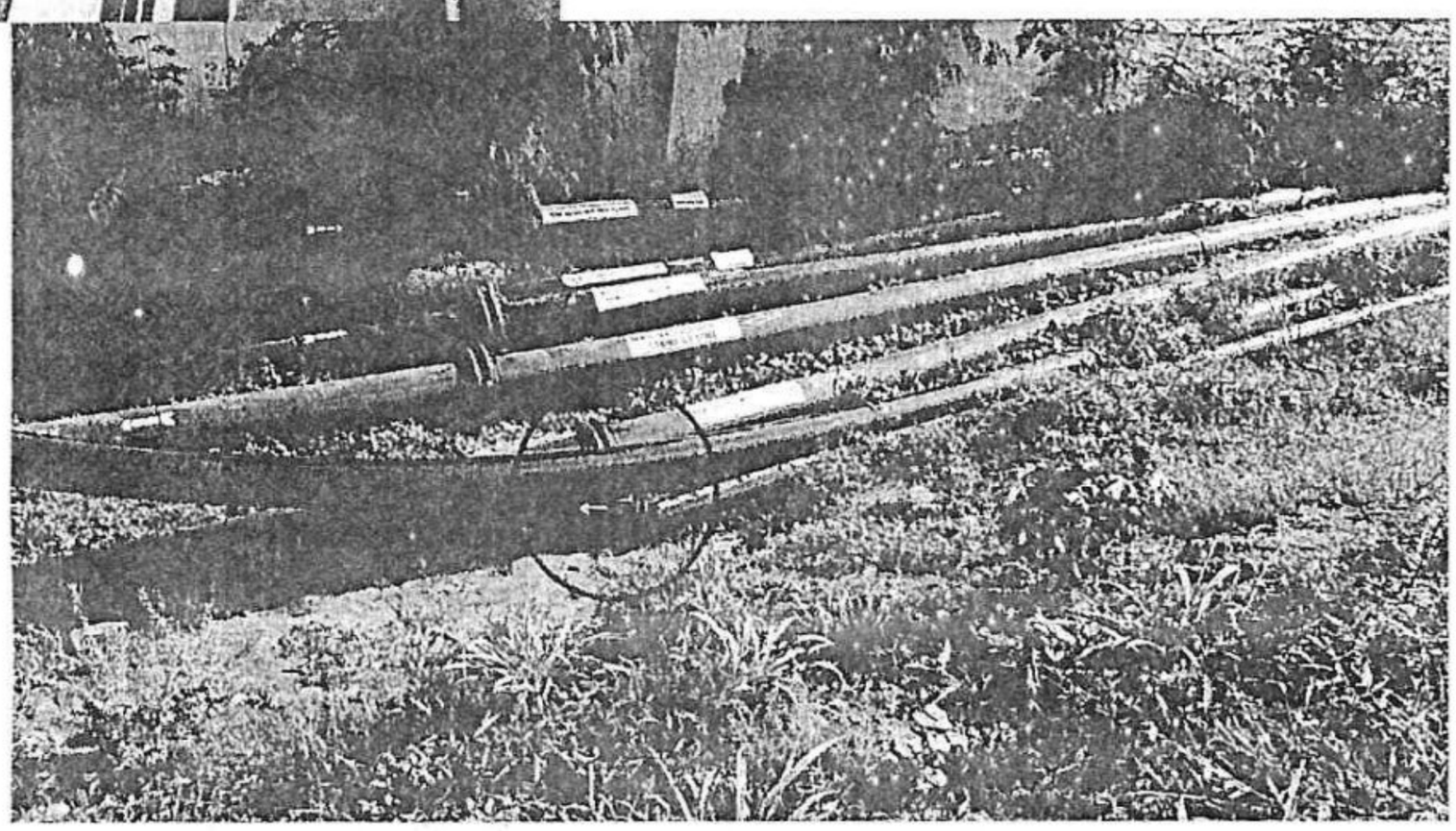
V. As a part of investigation, the undersigned along with EE, RO, Visakhapatnam inspected the industry on 22.06.2020. The industry was enquired about the disposal of NaCl effluent stream of effluent. The representative of the industry informed that they were disposing the NaCl effluent stream into the sea after neutralization. It was observed during inspection that :

- The industry laid a 4" - 6" inch pipeline from gaurd pond No.6 and joined this pipe to the marine discharge pipeline near the culvert i.e., at a distance of about 100 mts after the lock and key arrangement.
- As per CFO order dated 06.03.2019 the industry was permitted to discharge NaCl stream into the sea after neutralization through marine outfall duly meeting the standards stipulated.
- The Board stipulated same marine discharge standards for all the outlets (1 - 7). But the industry without the knowledge of the Board laid this pipeline and illegally discharged the effluent into sea without any analysis and lock and key supervision of Board officials.
- A flow meter was observed in the pipeline with a reading of 136882 m^3. The industry after lot of persuasion submitted the records of flow meter from 01.09.2019 to 23.06.2020.
- As per records the flow meter with a reading of 23 m^3 was installed on 01.09.2019.
- The flow meter after a reading of 28,261 m^3 was changed on 15.12.2019 with another flow meter reading of 85595 m^3. The final flow meter reading as on 23.06.2020 was 137182 m^3.

- A total flow of 79825 m^3 of effluent was discharged into the sea illegally by the industry during the period from 01.09.2019 to 23.06.2020. The industry discharged @ 270 KLD during the above period.







VI. The Board officials who were on duty for allowing the industry for marine discharge informed that they have not observed the said bypass pipeline in the past and it might have been laid recently. The photograph taken during the inspection on 02.03.2020 by the SEE, ZO, Visakhapatnam clearly shows that pumping arrangements and the discharge pipelines are not existing at guard pond 6. The industry established a desalination plant adjacent to guard ponds. The sea water intake pipeline and reject pipeline runs parallel to the marine discharge pipelines. The industry might have resorted to illegal discharge as reported at para no. V through the desalination reject pipeline.

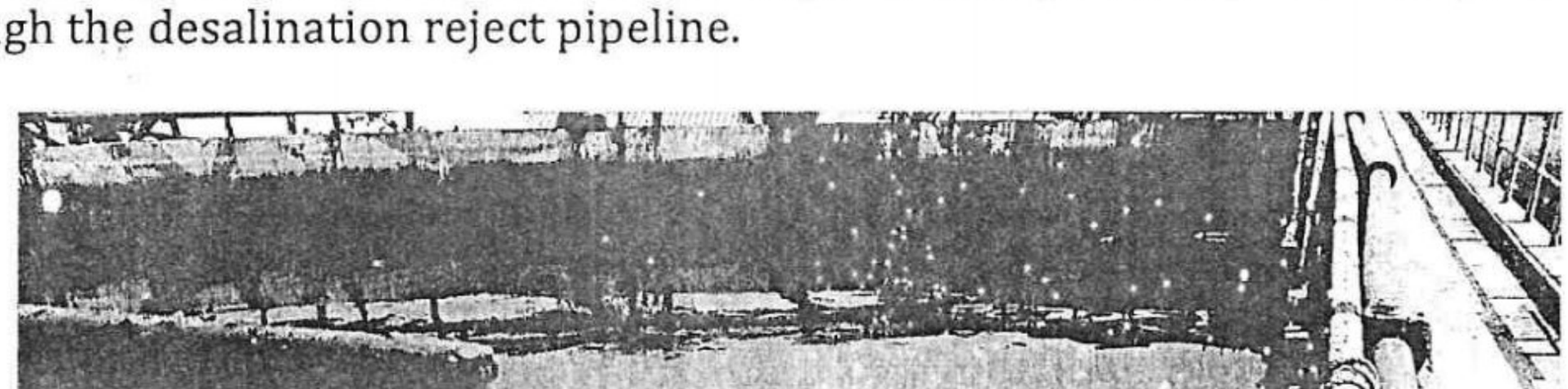


Photo of the guard pond 6 taken on 02.03.2020

VII. The industry vide letter dated 30.06.2020 (reference 5th cited) informed that they have discharged the following quantity of effluents into the sea during September, 2019 to June, 2020.

Sl. No	Month	LTDS treated effluent discharge (KL)	Nacl effluent & Nacl equipment washings (KL)	Total treated effluent discharge (KL)	Average effluent discharge per Day (KL)
1.	Sep – 2019	10110	8778	18888	630
2.	Oct – 2019	15306	7329	22635	730
3.	Nov – 2019	14812	8201	23013	767
4.	Dec – 2019	15365	7934	23299	752
5.	Jan – 2020	16174	5919	22093	713
6.	Feb – 2020	13256	7970	21226	758
7.	Mar – 2020	14727	7964	22691	732
8.	Apr – 2020	12499	7964	20193	673
9.	May – 2020	16740	7791	24531	791
10.	June - 2020	16494	10245	26739	891
	Average discharge Qty/Day				**744**

The LTDS treated effluent discharge mentioned in the above table had taken place under the supervision of Board officials. But the Nacl effluent & Nacl equipment washings quantity of 80095 KL was discharged into the sea illegally in violation of consent conditions without the knowledge of the Board. It is further submitted that the Board officials collected flow meter readings of different streams viz., NaCl, LTDS, Non Process and RO Rejects during the period from December 2019 to May 2020. The quantities are tabulated below :

Sl. No	Month	NaCl	LTDS	Non Process	RO Rejects
1.	December, 2019	1499	7415	3320	2632
2.	January, 2020	1622	7814	3173	2408
3.	February, 2020	1911	10266	2989	2353
4.	March, 2020	2398	7811	3109	2585
5.	April, 2020	1440	8728	1515	906
6.	May, 2020	1417	12795	1921	1814
	Total	**10287**	**54829**	**16027**	**12698**

The industry was unable to give a satisfactory reply to the reason for NaCl quantity of 10287 KL declared to the Board and the un-authorized quantity of NaCl effluents of 80095 KL.

VIII. The industry was directed to immediately remove the illegal pipeline and collect the so-called NaCl effluents in the guard ponds. It was observed during inspection on 24.06.2020 that the industry removed the pipeline. The representative of the industry informed that the NaCl effluents after neutralization were stored in the guard pond no. 6 and requested for permission to discharge into the sea. The samples from the guard pond no. 6 were collected on 24.06.2020 and 25.06.2020 and analysed. The analysis results are tabulated below :

Parameter	Sample collected on 24.06.2020	Sample collected on 25.06.2020	Standards
pH	6.77	8.13	6.5 - 8.5
TSS	198	161	100 mg/l
TDS	48124	47596	---
COD	144	96	225 mg/l
BOD	32	21	75 mg/l

Chlorides	34616	29767	---
Phenols	BDL	BDL	5.00 mg/l
Phosphates	BDL	BDL	0.5 mg/l
Hex. Chromium	BDL	0.01	0.5 mg/l
Total Chromium	BDL	BDL	1.00 mg/l
Arsenic	BDL	BDL	0.10 mg/l
Lead	BDL	BDL	1.00 mg/l
Cadmium	BDL	BDL	1.00 mg/l
Copper	BDL	BDL	2.00 mg/l
Zinc	BDL	BDL	10.00 mg/l

IX. The SEE, ZO, Visakhapatnam in his inspection report requested to direct the industry to take the following measures immediately.

1. Provision of hood, suction system and scrubber at the inlet of ETP to prevent emission VOCs.
2. Provision of scrubber to the stripper and ATFD vents and suitable provision for vacuum vent of MEE to prevent emission of uncondensed gases.
3. Commissioning of new ESPs and connecting to new stacks for the existing 24 TPH and 16 TPH boilers within 1 month.
4. Provision of OCEMS to all the stacks connected to 24.0 TPH, 16.0 TPH, 6.0 TPH boilers.
5. Provision of collection system at the production blocks to prevent spillages entering the storm water drains. The industry shall ensure that the storm water drains are totally dry during non storm days.
6. To take up LDAR (Leak detection and repair) study pertaining to solvent loses and take appropriate measures as suggested in the report for control of emission of VOCs within 1 month.
7. To expedite the commissioning of new waste management premises within 3 months.
8. To provide data loggers to the online pH meters provided to the scrubbers and connect to the central control room and shall maintain continuous data with atleast 90 days back up. The industry shall explore the possibility of further improvement of the provision of another layer of control systems for this scrubber vents.
9. To identify the source of contamination of Hand pump at Annavaram village and to take up action for remediation of the bore well and also the contaminated soil.

Recommendations :

The industry illegally discharged 80095 KL of effluent into the sea without the knowledge of the Board during September, 2019 to June, 2020 violating the consent conditions. Some other violations were also observed during the inspection of Board officials, which were reported in the inspection reports reference 1st and 2ns cited. Hence the industry may be called for review and take necessary action including Levy of Environmental Compensation for the violations.

Submitted.

Yours faithfully,

Rajendra Reddy Thuraka

Digitally signed by Rajendra Reddy Thuraka
Date: 2020.07.11 13:44:44 +05'30'

JOINT CHIEF ENVIRONMENTAL ENGINEER

Enclosed :

1. Inspection report dt. 21.03.2020 of SEE, ZO, Visakhapatnam.
2. Inspection report dt. 16.04.2020 of JSO, Board office.
3. Explanation called from the industry dt 28.04.2020.
4. Reply submitted by the industry dt. 03.07.2020.
5. Letter dt 30.06.2020 of the industry.

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A.P. POLLUTION CONTROL BOARD
REGIONAL OFFICE :: NELLORE

Lr.No.N-1105/PCB/RO-NLR/2020- 608 **Dt.29.09.2020**

To
The Member Secretary,
A.P. Pollution Control Board,
Board Office,
Vijayawada.

Sir,

Sub: APPCB - Consent for Establishment application of **M/s. Divi's Laboratories Limited, Krishnapatnam Industrial Area (KIA), Kothapatnam Village, Kota Mandal, SPSR Nellore District for laying of pipeline to discharge waste water through marine outfall** - Verification report – Submitted – Reg.

Ref: Industry's CFE application filed through single desk on 26.09.2020 vide OCMMS application ID No. 1408661.

It is to submit that the project proponent had submitted CFE application vide reference cited. The verification report is submitted as following:

01	**Name of the Industry & Location address with Sy.Nos. Ph No.08922248911 Email ID : siripurapu.balaji199@gmail.com**	**:**	**M/s. Divi's Laboratories Limited, Sy Nos.397, 404, 402,403,446,676, 681, 682, 683, 700 to 709 etc. Krishnapatnam Industrial Area (KIA), Kothapatnam Village, Kota Mandal, SPSR Nellore District**
	i) Latitude & Longitude **(project site coordinates)**	:	**N - 14° 10' 05.82" E - 80° 05' 55.00"** **N - 14° 09' 43.56" E - 80° 05' 51.80"** **N - 14° 09' 43.74" E - 80° 06' 24.21"** **N - 14° 10' 16.20" E - 80° 06' 16.88"**
	ii) Latitude & Longitude **(Marine outfall coordinates)**	:	**Land Fall Point (LFP)** **N - 14° 10' 09" E - 80° 07' 35"** **Outfall diffuser (Distance – 1000m, Depth = 8m CD** **N - 14° 10' 09" E - 80° 08' 09"**
	iii) Address for correspondence with pin code Ph No. **08922248911** Email: **siripurapu.balaji199@gmail.com**		Sri Siripurapu Balaji, S/o. Rajendra Prasad, D. No.103, Main Road, Madhurawada, Visakhapatnam – 530048.
02	**Inspection details**	**:**	
	i) Date of inspection	:	26.09.2020
	ii) Inspection conducted by	:	Sri M. Pramod Kumar Reddy, EE
	iii) Name of representative of the industry present, cell no and mail ID.	:	Sri Y. Venu Gopal Rao, Project Incharge
03	**Project site details:**	**:**	
	i) Total area of the land	:	ROW : Proposed HDPE pipeline of 2.3 km length with Inner dia : 240mm and Outer dia : 280mm, which would be to the extent of 4600 Sq.m (2.3 km x 2mtrs width), passed through Reserve Forest land, Private lands& M/s. KPCL Infra land.
	ii) Nearest Human habitation	:	
	1) The village Gunnampadia (Near pipeline) is existing at a distance of about 150m on Southern side. 2) The Village Yamadinnepalem having population of about 250 Nos., is existing at a distance of about 200mtrs to the proposed site of M/s Divis Laboratories Limited. 3) The village of Narravaripalem having population of about 40 Nos. is existing adjacent to the site		

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	iii)	Nearby water body	:	Bay of Bengal is existing at a distance of about 2.2km. from the proposed project site Buckingham canal is existing at a distance of about 440m. from the proposed project site.
	iv)	Surroundings of the site	:	
		North	:	Land belongs to M/s. KPCL Infra, local villagers & Reserve Forest.
		South	:	Private land & Reserve Forest land.
		East	:	Bay of Bengal
		West	:	Proposed Pharma project site of M/s. Divi's Laboratories Ltd.
	vii	Road details	:	-

04)	**Project Cost**	:	Rs.100.0 Lakhs
05)	**CFE fee details**		The industry paid Rs.10,000/- (through online Receipt No.424629236 Dt.26.09.2020 towards CFE fee on the project cost of Rs.100 Lakhs Red-Haz category.

06)	**i) Category of the Industry**	:	Red-Haz
	ii) Line of Activity	:	The present proposal is for laying of pipeline for disposal-off treated effluents proposed to generate from the proposed Active Pharmaceutical Ingredients (APIs) & Intermediate products manufacturing unit through marine outfall.

07)	**Products and By-products : No activity involved. The proponent proposed to lay HDPE pipeline with Inner dia : 240mm and Outer dia : 280mm for disposal-off treated effluents proposed to generate from the proposed Active Pharmaceutical Ingredients (APIs) & Intermediate products manufacturing unit through marine outfall.**

08)	**Raw material and chemicals used : No manufacturing process involved.**

09)	**Storage details of chemicals / Fuels: ---**		
10)	Brief description of process :		
11)	Source of Water supply	:	Krishnapatnam Port
12)	Water Pollution, treatment and disposal	:	--

water consumption : For manufacturing of Active Pharmaceutical Ingredients (APIs) & Intermediate products **as per EMP**

S.N.	Purpose	:	Proposed (KLD) (Fresh water)
1.	**Process**	:	**810.0 KLD**
2.	**Reactors, Floor washings etc.**	:	**200.0 KLD**
3.	**RO/ DM Plant**	:	**200.0 KLD**
4.	**Boiler**	:	**500.0 KLD**
5.	**Cooling Tower**	:	**200.0 KLD**
6.	**Domestic & Hostels**	:	**270.0 KLD**
7.	**Green Belt**	:	**320.00 KLD**
	Total	:	**2500.00 KLD**

Waste water generation : as per EMP

S.N.	Purpose	:	Quantity (KLD)
1.	**Process**	:	**1002.0 KLD**
2.	**Reactors, Floor washings etc.**	:	**180.0 KLD**
3.	**RO/ DM Plant**	:	**200.0 KLD**
4.	**Boiler**	:	**425.0 KLD**
5.	**Cooling Tower**	:	**420.0 KLD**
6.	**Domestic & Hostels**	:	**143.0 KLD**
	Total	:	**2500.00 KLD**
	In the proposed manufacturing of Active Pharmaceutical Ingredients (APIs) & Intermediate products, part of the waste water generated will be reused and excess quantity of effluent (1727 KLD) will be discharged into sea after treatment.		

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C) Details of Proposed ETP : As per EMP

The Effluent Treatment Plant consists of Collection tank, Oil & Grease Trap, Equalization cum Neutralization, primary settling tank, Aeration tank -1, clarifier, sludge Drying Beds for treating the LTDS effluents and Stripper, MEE & ATFD for treating the HTDS effluents. After treatment, part of the waste water generated will be reused and excess quantity of effluent (1727 KLD) will be discharged into sea after treatment

13)	**A. Air Emissions, control systems: ---**
14)	**Details of Solvent Recovery system: NIL**
15)	**Solid Waste / Haz. Waste and its disposal: Laying of pipeline**

16)	**Court cases / complaints, if any.**	:	
	As per the request of the Joint Director, Fisheries Department, Nellore made to the District Collector, SPSR Nellore District in connection to the instructions received from the Commissioner of the Fisheries to conduct joint inspection along with officials of APPCB to verify the content mentioned in the representation of All India Shrimp Hatcheries Association for onward submission of report to the Chief Minister's Office, as the Hon'ble Chief Minister, Govt. of A.P. has instructed during the review meeting held on 20.09.2019 that no pollutant industry or pharmaceutical industry should be established near aqua zones / aqua hatcheries in the view of the pollution hazards in nearby water sources. Hence, the District Collector, SPSR Nellore District has directed to conduct Joint inspection by the officials viz., Joint Director, Fisheries, Nellore; Dy. Director, District Industries, Centre, Nellore; Dy. Inspector of Factories, Nellore and EE, APPCB, RO, Nellore & inspected the proposed project site of M/s Divis Laboratories Limited on 07.03.2020. Copy of the Joint inspection report along with approval note of the District Collector, SPSR Nellore District are herewith enclosed.		

17)	**Compliance with regard to EIA notification**
	1. The proponent applied for EC for manufacturing of Active Pharmaceutical Ingredients (APIs) & Intermediate products 2. The proposal for laying of pipe line for disposal-off treated effluents proposed to generate from the proposed Active Pharmaceutical Ingredients (APIs) & Intermediate products manufacturing unit through marine outfall need CRZ clearance. Hence, proponent has submitted CFE application along with Marine EIA report to seek the CRZ clearance.

18) Remarks of the Inspection Officer :

1. M/s Divis Laboratories Limited (DLI) has proposed to establish Active Pharmaceutical Ingredients (APIs) & Intermediate products and acquired extent of about 202 acres of land at Sy Nos.397, 404, 402,403,446,676, 681, 682, 683, 700 to 709 etc. Krishnapatnam Industrial Area (KIA), Kothapatnam Village, Kota Mandal, SPSR Nellore District.

2. Now, the proponent submitted CFE application only for marine outfall to discharge treated effluents proposed to generate from the proposed Active Pharmaceutical Ingredients (APIs) & Intermediate products manufacturing unit with investment of Rs.100 lakhs.

3. <u>As per the EIA report</u> : It is proposed to dispose off the treated wastewater of 1727 KLD into Bay of Bengal through marine outfall. The outlet diffuser will be located at 1000m. distance from the Land Fall Point at a water depth of 8m CD. Outfall will have 3 Nos. x 150mm dia ports (with one spare part) – multiple port diffuser arrangement. The outfall pipeline will be laid on the seabed which will eventually get buried into the seafloor.

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4. As per the EMP report, the proponent proposed to utilize huge quantity of fresh water of about 2500 KLD to manufacture Active Pharmaceutical Ingredients (APIs) & Intermediate products. But the proponent has not furnished any proposal on establishment of De-salination Plant or even not produced permission of the Govt. for withdrawl of the water from any Reservoir, as sourcing of 2500 KLD from ground level may leads to water depletion on the surrounding Ground water table. Further, the proponent has not obtained NOC from the Forest Dept. for laying of pipeline, as the pipe line is also passing through RF lands.

5. As per the request of the Joint Director, Fisheries Department, Nellore to the District Collector, SPSR Nellore District in connection to the instructions received from the Commissioner of the Fisheries to conduct joint inspection along with APPCB on the content mentioned in the representation of All India Shrimp Hatcheries Association for onward submission of report to the Chief Minister's Office, as the Hon'ble Chief Minister, Govt. of A.P. has instructed during the review meeting held on 20.09.2019 that no pollutant industry or pharmaceutical industry should be established near aqua zones / aqua hatcheries in the view of the pollution hazards in nearby water sources. Hence, the District Collector, SPSR Nellore District has directed to conduct Joint inspection by the officials viz., Joint Director, Fisheries, Nellore; Dy. Director, District Industries, Centre, Nellore; Dy. Inspector of Factories, Nellore and EE, APPCB, RO, Nellore & inspected the proposed project site of M/s Divis Laboratories Limited on 07.03.2020. Copy of the Joint inspection report along with approval note of the District Collector, SPSR Nellore District are is herewith enclosed.

6. During joint inspection, it was ascertained that at about 17 Nos. of hatchery units in Vakadu & Kota Mandal and aqua culture ponds over an extent of about 500 Ha are existing within the vicinity of 10km. radius. During interaction, the Villagers of Yamadinnepalem have informed that the management has constructed compound wall without settlement of land compensation to some of Patta & Dkt lands belongs to the villagers.

7. In the joint inspection report, the Joint Director, Fisheries Dept, one of the Joint committee member has stated that the SPSR Nellore District is playing a vital role for production of shrimp seed and around 30% of shrimp seed is being produced from (75) existing hatcheries (under Coastal Aquaculture Authority registered) located along with coastal region from Kota, Vakadu, T.P. Gudur, Indukurpet, Vidavalur & Allur Mandals and supplied throughout the country. The main source of intake water to the existing hatcheries is sea coast which is to be free from any toxic chemicals, contaminants, pollutants etc. Hence, the shrimp hatcheries are always located away from the industrial areas, as industrial discharge will have a strong influence on production of seed as well as farming area. The contaminated water with any antibiotic/ presticides / effluent of pharmaceutical industries will have every change to settle as residues in shrimp body that stay in the system for a longer period and such farming shrimp production will reject from export to foreign countries and put to heavy loss to the Aqua culture industry and earning of foreign exchange to the nation.

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8. During interaction with the representatives from the nearby Hatcheries at the time of joint inspection, they have informed that if the proposed Pharma industry establish and discharge effluents through marine outfall, their hatcheries & aquaculture will be affected, as the hatcheries & some of aqua culturist use sea water as source of water supply for producing healthy post larvae, which would be free of any toxic chemicals, contaminants, pollutants etc. and in the live stock business every parameter is very essential for the successful production levels in the Hatchery segment. The villagers & Representatives from Hatcheries and Aqua culturists have requested not to consider this type of polluting industry.

9. Large extent of sandy lands are available around the proposed Pharma project site. If the proponent explore the possibility to acquire additional land for utilizing the treated effluents for land applications for establishment of pharma unit rather than to dispose through marine outfall, to get rid of the apprehensions of the surrounding aqua culturists on water pollution.

19) Recommendations of the Regional Officer

The issue of CFE to M/s Divis Laboratories Limited **for laying of pipeline to discharge waste water through marine outfall** may not be considered in the light of the of Joint inspection committee remarks in connection to the apprehensions made in the representation of All India Shrimp Hatcheries Association.

Yours faithfully,

Encl: CFE application and its enclosures

ENVIRONMENTAL ENGINEER

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ANDHRA PRADESH POLLUTION CONTROL BOARD
D. No. 33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,
Chalamalavari Street, Kasturibaipet, Vijayawada - 520 010
Website: www.pcb.ap.gov.in

CONSENT FOR ESTABLISHMENT (NOC) ORDER

Order No.258 /APPCB/CFE/RO-NLR/HO/2020 **28/10/2020**

Sub: APPCB – NOC / CFE – **M/s. Divi's Laboratories Limited, Sy. No. 397, 401, 402, 403, 446, 676, 681, 682, 683, 700, 701 to 709, Krishnapatnam Industrial Area (KIA), Kothapatnam Village, Kota Mandal, SPSR Nellore District** - Consent for Establishment of the Board **for CFE (NOC) for marine outfall to discharge treated effluents** under Sec.25 of Water (P & C of P) Act, 1974 and Under Sec.21 of Air (P&C of P) Act, 1981 - Issued - Reg.

Ref:
1. Proponent's application received through single desk portal on 26.09.2020.
2. R.O's inspection report dt.29.09.2020.
3. CFE Committee meeting held on 30.09.2020.
4. Hatcheries Association Representation dt.12.10.2020
5. CFE Committee meeting held on 22.10.2020.
6. Industry mail dt.01.10.2020 & letters dt.22.10.2020, dt.24.10.2020.

1. In the reference 1st cited , an application was submitted to the Board seeking CFE (NOC) for marine outfall to discharge treated effluents to be generated from the proposed Active Pharmaceutical Ingredients (APIs) & Intermediate products manufacturing unit of production capacity 10,483 TPA. The project cost of marine outfall is Rs.100 lakhs. The details of the marine outfall are as following:

- Length of the pipeline : 2.3km
- Area of the corridor: (2.3km X 2 m) = 4,600Sq.m.
- HDPE pipeline with Inner dia : 240mm and Outer dia : 280mm
- No. of ports : 3 x 150mm dia
- Volume of discharge : 1727m^3/day

2. As per the application, the above project is to be located in the Krishnapatnam Industrial Area (KIA), Kothapatnam Village, Kota Mandal, SPSR Nellore District.

3. The site was inspected by the Environmental Engineer, Regional office, Nellore, A.P Pollution Control Board on 26.09.2020 and observed that the site is surrounded by

North : Land belongs to M/s. KPCL Infra, local villagers & Reserve Forest.
South : Private land & Reserve Forest land.
East : Bay of Bengal
West : Proposed Pharma project site of M/s. Divi's Laboratories Ltd.

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4. The All India Shrimp Hatcheries Association had submitted a representation to the District Collector, SPSR Nellore District. Based on the representation, the District Collector had directed to conduct Joint inspection by the officials viz., Joint Director, Fisheries, Nellore; Dy.Director, District Industries Centre, Nellore; Dy.Inspector of Factories, Nellore and EE, APPCB, RO:Nellore. Accordingly, Joint Committee inspected the proposed project site of M/s. Divis Laboratories Limited on 07.03.2020 and submitted a joint inspection report to the District Collector, SPSR Nellore district. It was reported that the villagers & representatives from Hatcheries and Aqua culturists have requested not to consider this type of polluting industry.

   The President, All India Shrimp Hatcheries Association, Nellore Regional Chapter, submitted a representation dt.12.10.2020 to the Hon'ble Chief Minister and marked a copy to the Chairman, APPCB. It was requested to study the appeal and relocate the proposed unit of M/s. Divis Laboratories Limited (DLI) at Sy. Nos.397, 404, 402,403,446,676, 681, 682, 683, 700 to 709 etc. Krishnapatnam Industrial Area (KIA), Kothapatnam (V), Kota(M), SPSR Nellore District to Pharma Hub.

5. The Board, after careful scrutiny of the application, verification report of Regional Officer: Nellore and recommendation of the CFE Committee hereby issues **CONSENT FOR ESTABLISHMENT (NOC) FOR MARINE OUTFALL FACILITY** under Section 25 of Water (Prevention & Control of Pollution) Act 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 and the rules made there under. **This order is issued to the activity as mentioned at para (1) only.**

6. This order is subject to the conditions mentioned in the annexure.

7. This order is issued from pollution control point of view only. Zoning and other regulations are not considered.

8. **This order is valid for a period of 7 years from the date of issue.**

Encl: Annexure

Siva Sankar Prasad Bandla

Digitally signed by Siva Sankar Prasad Bandla
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Date: 2020.10.28 18:55:36 +05'30'

BANDLA SIVA SANKARA PRASAD, CHAIRMAN, O/o CHAIRMAN-APPCB
Chairman

To
M/s. Divi's Laboratories Limited,
Sy Nos.397, 404, 402,403,446,676,
681, 682, 683, 700 to 709
Krishnapatnam Industrial Area (KIA),
Kothapatnam (V), Kota (M),
SPSR Nellore District.
siripurapu.balaji99@gmail.com

Copy to: 1. The JCEE, Z.O., Vijayawada for information and necessary action.
2. The E.E., R.O, Nellore for information and necessary action.

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Public Information Officer
APPCB :: RO, Nellore

Annexure

1. The source of water is Borewells, Kandaleru Reservoir, Krishnapatnam Port and the maximum permitted water requirement (as per Power point presentation) is as following:

S.No.	Purpose	Quantity (KLD)
1.	Process	810.0
2.	Reactors, Floor washings etc.	200.0
3.	RO/ DM Plant	200.0
4.	Boiler	500.0
5.	Cooling Tower	743.0
6.	Domestic & Hostels	270.0
7.	Green Belt	520.00
	Total	**3243.00 KLD**

Fresh water requirement = 2500 KLD and Treated water recycled = 743 KLD

Separate meters with necessary pipe-line shall be provided for assessing the quantity of water used for each of the purposes mentioned above.

2. The maximum waste water generation (as per Power point presentation) shall not exceed the following:

S.No.	Purpose	Quantity (KLD)
1.	Process	1002.0
2.	Reactors, Floor washings etc.	180.0
3.	RO/ DM Plant	200.0
4.	Boiler	425.0
5.	Cooling Tower	420.0
6.	Domestic & Hostels	243.0
	Total	**2470.00 KLD**

Out of that 743 KLD of treated wastewater is recycled and remaining 1727 KLD after treatment shall be discharged through marine outfall.

3. The proponent shall provide ETP of adequate capacity to treat the effluents. The effluents shall be treated to the marine discharge standards, as stipulated under Schedule VI of Environment (Protection) Rules, 1986, notified by Ministry of Environment and Forests, Government of India vide G.S.R.422 (E), dt.19.05.1993 and its amendments thereof.

4. The proponent shall construct guard ponds to store the treated effluent generated with lock and key arrangement to the outlet. The treated effluent from the guard pond shall be discharged into the sea under the supervision of APPCB officials.

5. Effluents shall not be discharged on land or into any water bodies or aquifers under any circumstances.

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6. The proponent shall regularly monitor the flora and fauna of the marine aquatic life. The trend analysis of the monitoring reports shall be compared with the base line data. If it is found any negative impacts, immediate restorative measures shall be implemented duly submitting a report to Board.

7. The proponent shall provide continuous online effluent monitoring system for regular monitoring of prescribed parameters at the outlet of the industry. It shall be connected to the website of CPCB and APPCB.

8. **The industry shall apply for CFE for project along with copies of CRZ clearance and EC order.**

9. The proponent shall provide magnetic flow meter with the digital totalizer with recording facility for the purpose of quantification of treated effluent discharged through marine outfall

10. The proponent shall comply with all the directions issued by the Board from time to time.

11. Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order and attract action under the provisions of relevant pollution control Acts.

12. Notwithstanding anything contained in this conditional consent, the Board hereby reserves its right and power under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke in the order, review any or all the conditions imposed herein and to make such alternation as deemed fit and stipulate any additional conditions or revoke the order in the interest of environment protection.

13. Any person aggrieved with this order may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to the Appellate Authority constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.

Siva Sankar Prasad Bandla

Digitally signed by Siva Sankar Prasad Bandla
DN: c=IN, o=AP Pollution Control Board, ou=EFS and T, 2.5.4.20=c040c01bf7f6f398976702e0cdb9b479454f18c98b21c03bc47f7349d6555b35, postalCode=520010, st=Andhra Pradesh, serialNumber=ff61823dac185ce4ef8e59167d9e8ac9843dd3e438cd8d2c4130d6c5e5705a7f, cn=Siva Sankar Prasad Bandla
Date: 2020.10.28 18:57:02 +05'30'

BANDLA SIVA SANKARA PRASAD, CHAIRMAN, O/o CHAIRMAN-APPCB
Chairman

To
M/s. Divi's Laboratories Limited,
Sy Nos.397, 404, 402,403,446,676,
681, 682, 683, 700 to 709
Krishnapatnam Industrial Area (KIA),
Kothapatnam (V), Kota (M),
SPSR Nellore District
siripurapu.balaji99@gmail.com

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Public Information Officer
APPCB :: RO, Nellore

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समुद्री उत्पाद निर्यात विकास प्राधिकरण

(वाणिज्य एवं उद्योग मंत्रालय, भारत सरकार)
एम पी ई डी ए भवन, पनंपिल्ली एवन्यू
डाक पेटी सं. 4272, कोच्ची - 682 036, भारत

The Marine Products Export Development Authority

(Ministry of Commerce & Industry, Govt. Of India)
MPEDA House, Panampilly Avenue,
P.B. No. 4272, Kochi-682 036. India

फोन / Phone : 2311979, 2311901, 2311854, 2311803, 2313415, 2314468, 2315065

फाक्स / Fax : 91-484-2313361

E-mail : ho@mpeda.gov.in
Website : www.mpeda.gov.in

संदर्भ/Ref: ADMN-RTI/1/2019-ADMN

तारीख/Date: 04.12.2020

Shri D. Sagar Reddy
S/o. D.V. Ramana Reddy
Dharuvukatta Village
Kota Mandal
SPSR Nellore District
Andhra Pradesh.

Sir,

Sub:- Information under Right to Information act 2005

With reference to your RTI application dated 27.10.2020, we are furnishing below the information sought.

Sl.No	Information sought	Reply
1	Information / Report submitted to MPEDA higher officials by MPEDA Assistant Director Vijayawada [Arivukkarasu-AD] alongwith JTO, QC Lab Nellore on 28.2.20.	The report submitted to MPEDA-HO is placed at Annexure I for information.
2	Information/Report submitted by AD Vijayawada to other concerned departments of the Government of Andhra Pradesh.	No reports were submitted by AD Vijayawada to other concerned departments of the Government of Andhra Pradesh.

As per Section 19(1) of RTI Act 2005, if you are not satisfied with the response, you may file an Appeal to Dr. Ram Mohan M.K, Joint Director, First Appellate Authority, MPEDA Head Office, MPEDA House, P.B.No.4272, Panampilly Nagar, Kochi- 682 036, within 30 days of the receipt of this letter.

Yours faithfully,

4/12/20
(SREEJITH P.T.)
Assistant Director (Dev) & CPIO

Encl: a/a

Fact finding report on representation given by AISHA in the concern of discharge of effluent in to the sea as addressed to the Honourable Chief Minister of Andhra Pradesh.

As instructed in the Note # 3, I have visited M/s. DIVIS Laboratories Limited at Kothapatnam (V), Kota (M), Nellore Dist, Andhra Pradesh on 28.02.2020. During the visit Mr. Sagar Reddy, President and Mr.Rajan, Secretary of Nellore Dist Hatchery Association and Mr. Vijayakumar JTO, QC Lab, Nellore also accompanied with me. At the end a discussion made with assembled hatchery operators and shrimp farmers who are involving in shrimp seed production and shrimp culture.

Project proposed area:

M/s.DIVIS Laboratories Limited is a pharmaceutical company established two units in Hyderabad and Visakhapatnam. As a part of this they are planning to establish a few more units in Andhra Pradesh. In this regard M/s.DIVIS Laboratories Limited identified and purchased around 81.74 Ha (202 Acres) of land from Krishnapatnam Infratech limited for establishing multipurpose production blocks in Krishnampatnam Industrial Area (KIA) at Kothapatnam (V), Kota (M), Nellore Dist, Andhra Pradesh which is not a notified industrial area. The site is surrounded by KPIL land (towards sea) in the East, road in the West, KPIL land & reserved forest in the North and village road in the south. Bay Bengal is at a distance of 2.1 km in East direction from the site. Buckingham canal, which runs close to the project site, is declared as the National Waterway (NW).

Project Description:

According to MoEF&CC Notification S.O No.1533 dated 14.09.2006 and subsequent amendments, the project is classified as 5 (f) Synthetic organic chemicals industry (bulk drugs and intermediates) and categorised as "Category A". Pre-Feasibility report for establishing Bulk Drugs & Intermediates manufacturing unit submitted to Ministry of Environment, Forest & Climate Change, GoI, New Delhi by M/s.DIVIS Laboratories Limited, Gachibowli, Hyderabad. As per the categorization of industries by state-pollution control board, the proposed project is placed under Red Category (isolated storages of hazardous chemicals).

Products to be manufactured:

S. No	Product Chemical name	Production Capacity (MTPA)
1.	1-(6-methoxy-2-naphthyl)ethanone	5000
2.	2-(S) - Acetoxy propionylchloride	72
3.	ATIPA DICHLORIDE	300
4.	3- Hydroxy acetophenone	320
5.	p-methoxy phenyl acetic acid	780
6.	2-(1-cyclohexenyl)ethylamine	540
7.	Octamandalate	780
8.	Dextromethorphan HBr	420
9.	4-(4-chlorophenyl)cyclohexanecarboxylic acid	50
10.	Benzyladrinone HCl	500

12.	Z-L Valine	180
13.	C10-Dialdehyde	150
14.	1,2,3-Tri-O-Acetyl-5-deoxy-n-ribofuranose	50
15.	N-Hydroxysuccinimide	60
16.	Dimethylacetylene di carboxylate	60
17.	DL-2,2-dimethylcyclopropane carboxylic acid	10
18.	ACETONIDE	132
19.	I-Pentanol	84
20.	Astaxanthin	60
21.	B-Carotene	150
22.	Beta-iolidine ethyl triphenyl phosphene bromide	380
23.	Lycopene	25
24.	Canthaxanthin	5
25.	APO Carotenol	25
26.	Lutein	50
	Total	**10483**

Quantity of wastes to be generated and Scheme for their Management/disposal

The details of solid waste and hazardous waste generated from production blocks and ancillary facilities are given below.

S. No	Type of Waste	Quantity	Method of Disposal
1	Process residue	11739 kg/day	Shall be sent to the authorized cement plants for co-processing (or) for incineration at onsite /TSDF
2	Process Salts	1152 kg/day	To TSDF/ Authorized Vendors
3	ETP Sludge	200 kg/ day	To TSDF for secured land filling.
4	Multiple effect evaporation or forced evaporation salts	13658 kg/ day	To TSDF / Authorized Vendors
5	Incinerated ash	75 kg/ day	To TSDF
6	Containers & Container liners of Hazardous chemicals & hazardous Wastes.	Container 2000 no's/month and Liners 5000 no's/ month	After detoxification, it shall be disposed to the outside agencies.
7	Spent Carbon	134 kg/ day	Shall be sent to the authorized cement plants for co-processing (or) for incineration at onsite /TSDF.

9	Spent Solvents	200 kl/day	Shall be recovered within the premises / to authorized re processers or recyclers
10	Mixed spent Solvent	40 kl / day	Shall be sent to authorized agencies / for Co-incineration in cement industries.
11	Spent acids	187 kl/day	Shall be sent to authorized agencies
12	Spent Catalysts	200 kg/day	Shall be sent to authorize re Processors / recyclers.
13	Ash (fly and bottom)	30 Tons/day	Shall be given to Brick/Tile/Cement manufacturers

Effulgent discharge:

The total water required for the project is 3200 Kilo Litres Day (KLD) and the waste water will be around 2470 KLD which will be treated in ETP, STP and MEE. Part of the treated water will be recycled and reused for greenbelt development, cooling tower etc., and excess wastewater, after meeting the coastal discharge standards will be disposed into sea through a dedicated marine outfall. They have proposed two options to discharge of effluent into the sea through pipe line and purchased land at discharge points.

Option 01.Length of proposed pipe line 2.50 km (approxi)

Option 02.Length of proposed pipe line 5.00 km (aaproxi)

Eco Sensitive areas:

List of Eco-Sensitive Areas within 15 km radius from site:

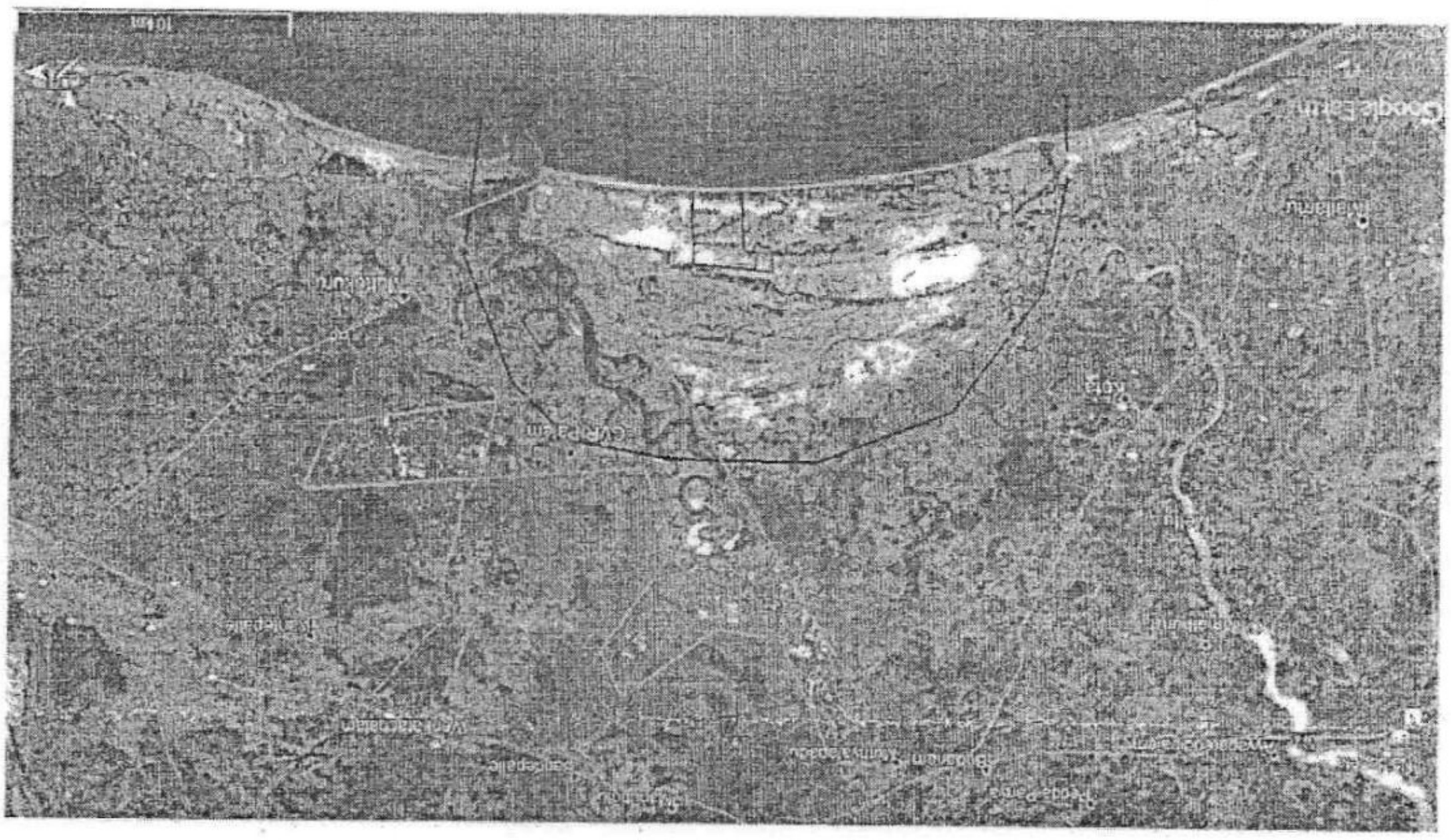
Name	Distance(Km)
Buckingham canal	0.4
Coastal Belt	2.1
Upputeru river estuary	8.6
Yeruvu Cheruvu	8.9
Swarnamukhi river estuary	9.7
Pennaki Cheruvu	11.9

Existing condition:

The total land area 202 acre is compounded with 12 feet height of cement plastered wall and out of which 15-20 acres under cultivation of ground nut by the same village people and the remaining place is empty as waste land under present situation. There is no existing infrastructure in the proposed project site as proposed in the proposal such as production blocks, facilities for the storage of raw materials, solvents and finished products, water storage tanks, waste material yards, cooling tower, service blocks, admin building, parking, canteen, ETP, STP, coal storage yard, hostels etc. However, required facilities will be developed as proposed in proposal.

Aqua zone:

At the periphery of 10 km radius (satellite image attached), more than 3000 ha of shrimp farms running at presently who's dependent on two major and interlinked minor creeks for water source and are connected with the sea. More than 15 no's of registered shrimp hatcheries operating under this zone and they are pumping sea water for hatchery seed production and other works. As proposed by the M/s.DIVIS Laboratories Limited, the effluent will be treated before enter into the sea and releasing into the sea. The treated effluent may be affected aquaculture industries which are located 10 -15 km radius of the laboratories due to unwanted residues may be dissolved in seawater and it will be deposited in sea caught fish/shrimps also.



***End of royal blue mark Joined in Two creeks

**Yellow marked-Hatcheries, Light blue marked-Farms,

***Red marked – proposed place for M/s.DIVIS Laboratories Limited

*** Dark red marked - drainage channel (2 options) as proposed by M/s.DIVIS Laboratories Limited

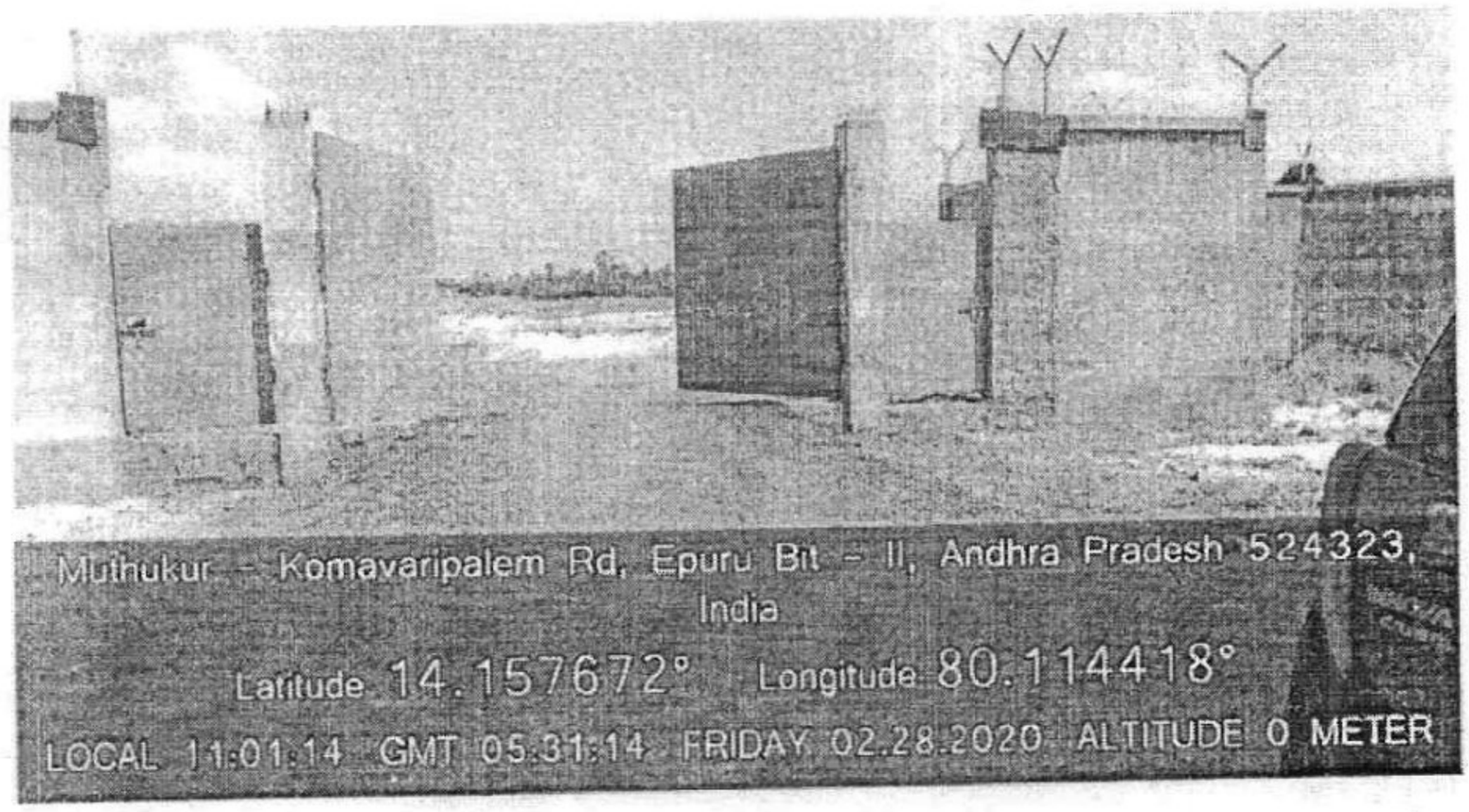


Fig.01.Main entrance of M/s.DIVIS Laboratories Limited,Kothapatnam Village.



Fig.02. Inside the proposed place for M/s.DIVIS Laboratories Limited,Kothapatnam Village.

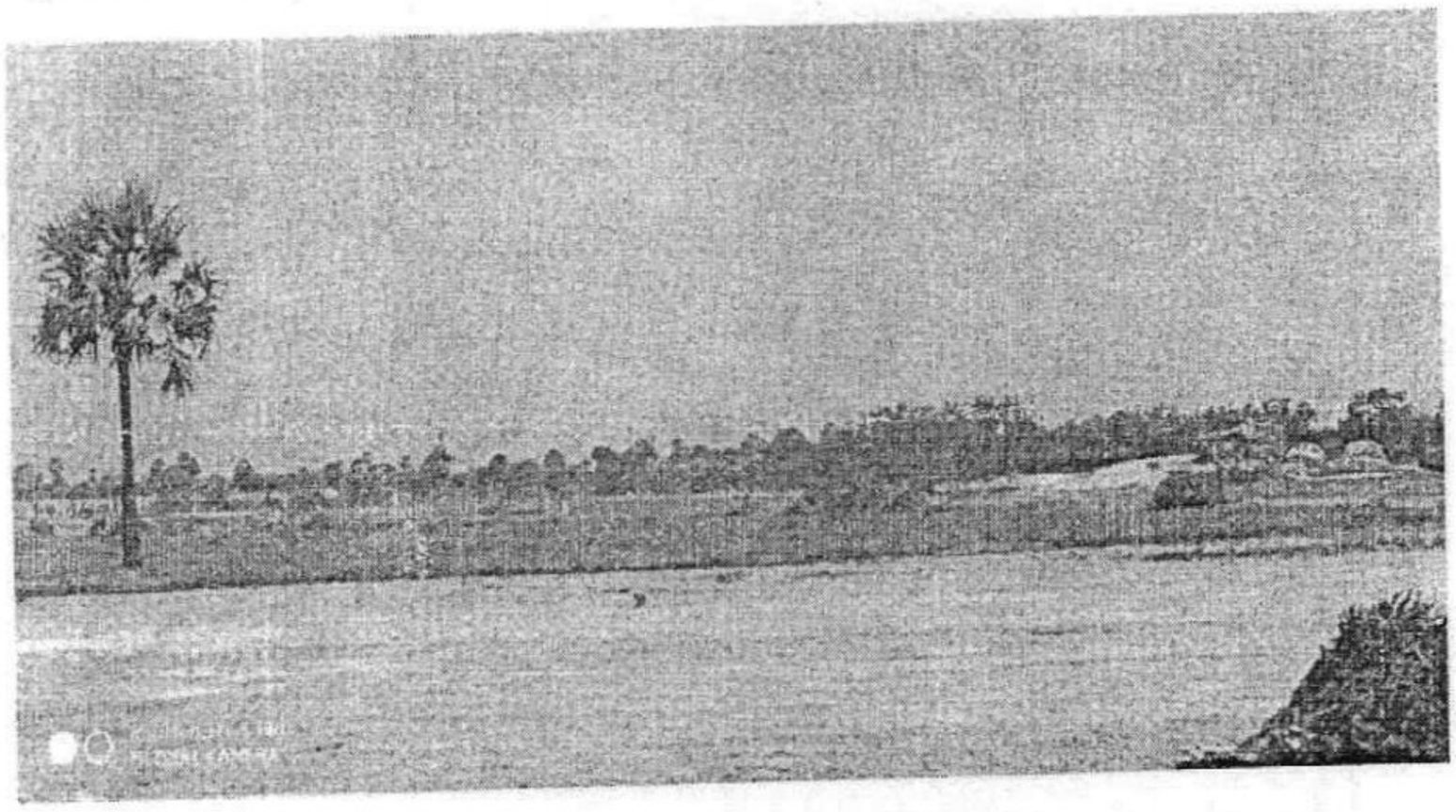


Fig.03.Ground nut cultivation for 15-20 acres by local farmer in proposed site

108818/2020/O/o RD VIJAYAWADA



Fig.04. Buckingham canal, which runs close to the project site.

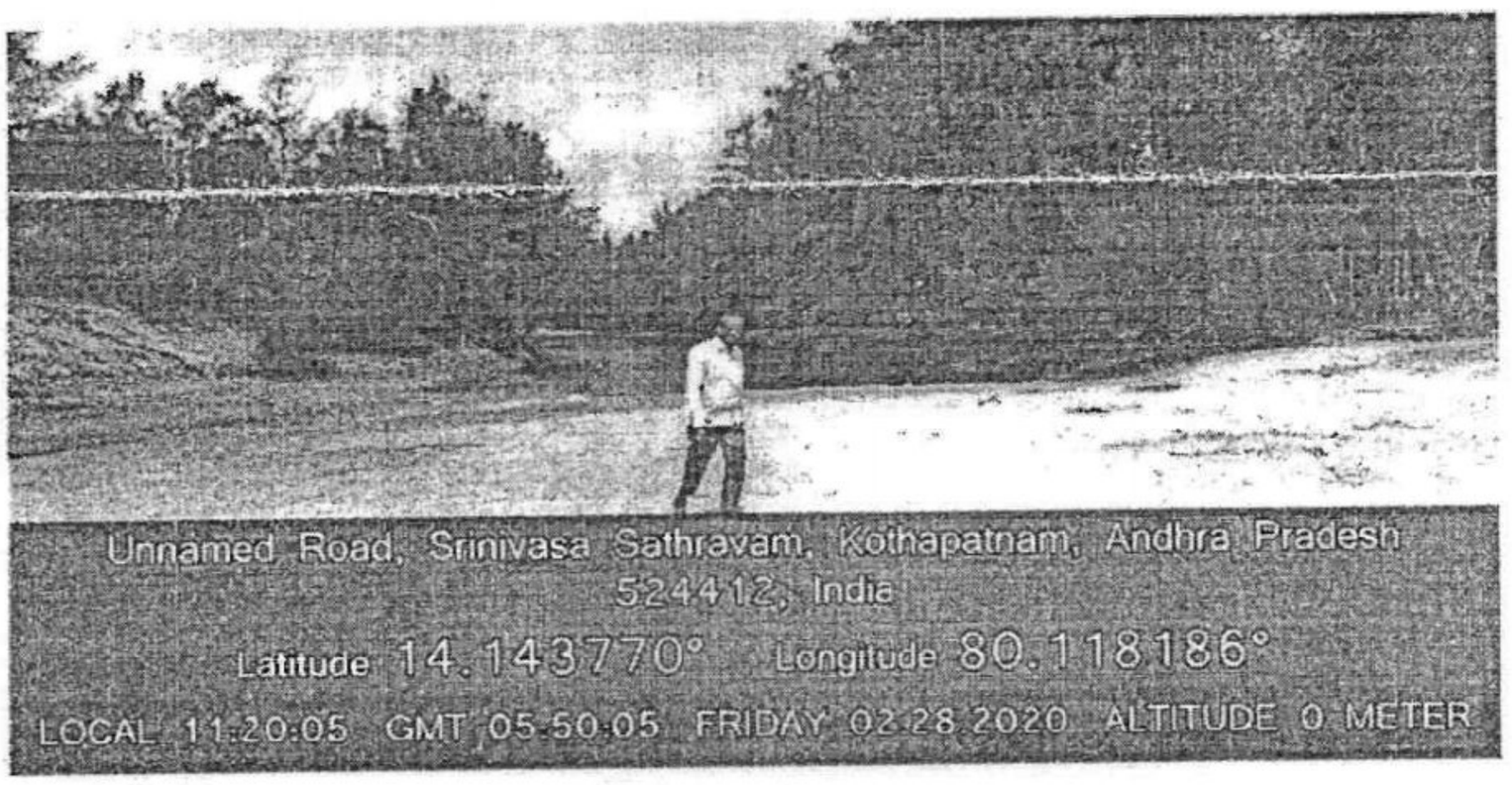


Fig: 05. Creek joining with sea

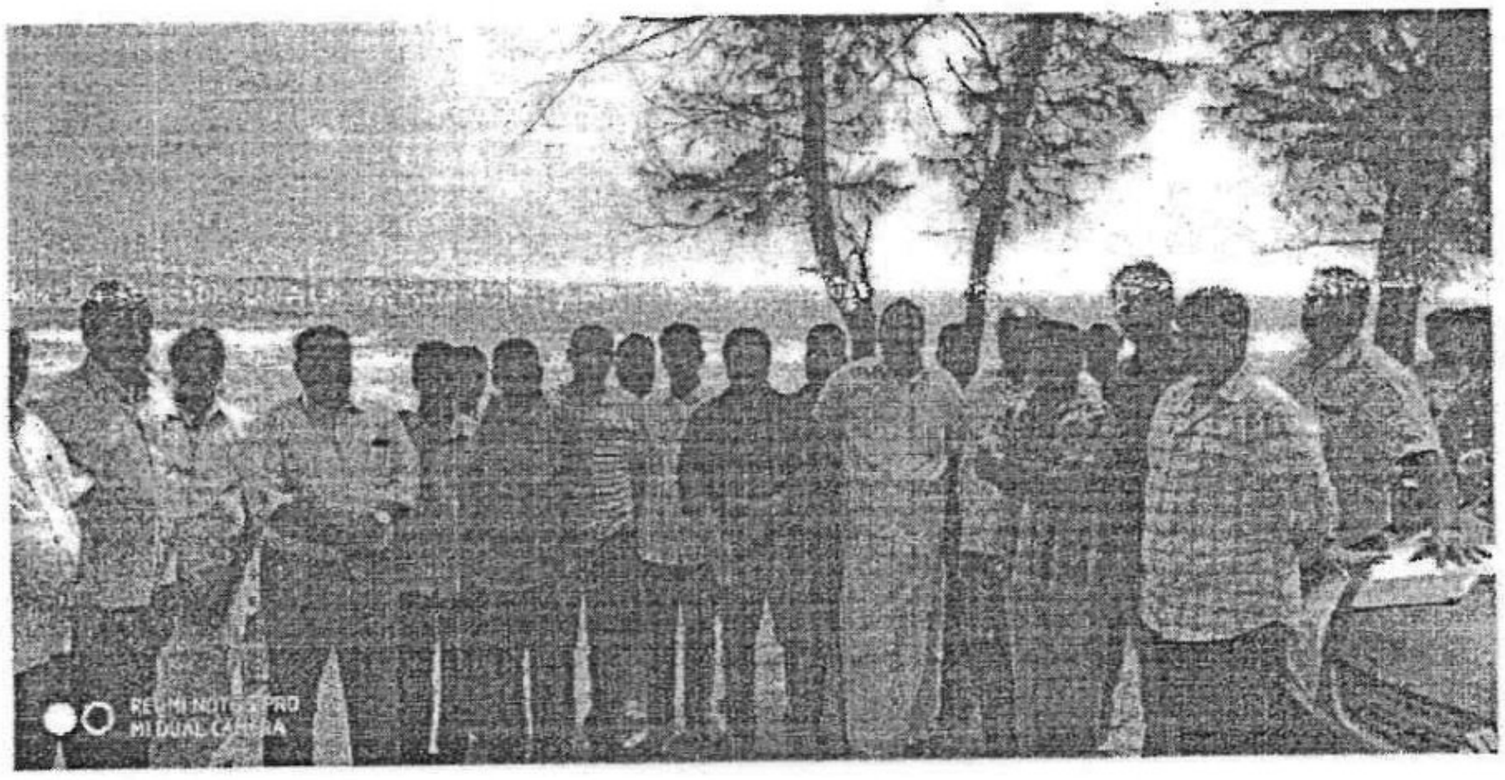


Fig.06.Hatchery operators & farmers

Observation

M/s.DIVIS Laboratories Limited not yet started the basic infrastructures as proposed in pre feasibility report for manufacturing of chemicals. They have constructed 12 ft height of compound for entire land.

We may discuss with Govt of Andhra Pradesh and Ministry of Environment, Forest & Climate Change, Govt of India as proposed by AISHA given in representation for changing the M/s.DIVIS Laboratories Limited into other industrial park or areas which will not be affected aquaculture.

Submitted for information,please.

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Setback: AP Govt Asks Divis Labs To Halt Construction Of New Facility Near Kakinada

By **MD Bureau** Published on 23 Dec 2020 6:19 PM Updated on 23 Dec 2020 6:19 PM



Amravati: In a major setback to Divis Laboratories, the Andhra Pradesh Government has put a stay on the construction of its pharmaceutical unit at Kakinada, East Godavari following a spat with the locals.

As per a recent media report accounts, the drugmaker, on Saturday, was asked by the government to stop all construction works till concerns of the local people were addressed.

Considering the ongoing agitation by local villagers against the new proposed unit by the company, State industries minister Mekapati Goutham Reddy held a discussion with the Divis management virtually. During the discussion, the

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YS Jagan Mohan Reddy, leader of the opposition back then, strongly opposed the plan as it would lead to displace x people, destroy marine wealth and affect the local hatcheries as per his opinion. However, after becoming the Chief Minister, Jagan himself gave his approval and asked Divis to move forward with the construction.

After this new development early this month, people reportedly started protesting again. The protest turned violent a few days ago when the protesters intruded into the construction site and damaged its properties. Police arrested 20 protestors regarding the matter.

However, in the meeting held virtually, the industries Minister asked the minister to withdraw the case against the protestors besides stopping the construction of the unit for the time being.

Regarding the protest of the villagers, the minister has asked the Divis management to resolve the matter after talking to the villagers.

PTI adds that a release from the minister's office said Goutham Reddy sought a firm assurance from the management that it would take all steps to ensure no pollution was caused in the region and the livelihood of local fishermen was not affected.

As per the discussion, the factory work is now likely to be taken under the direct supervision of experts from the Pollution Control Board. The minister also suggested to the management that the locals get 75% of jobs.

The release further added, "The Company responded favorably to the minister's suggestions.

Divis Lab divis labs news andhra pradesh government pharmaceutical

Source : with inputs

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By Medical Dialogues Team Published On 31 Aug 2021 5:55 PM Updated On 31 Aug 2021 5:55 PM

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Government of Andhra Pradesh
Fisheries Department

From
K.Kannababu, I.A.S.,
Commissioner of Fisheries (FAC)
Poranki-521137
Vijayawada

To
The Special Chief Secretary to Govt.
AH DD and Fisheries Department
AP Secretariat
Velagapudi

Letter No.4377/P1/2017 Date: 13-07-2021

Madam,

Sub: Fisheries – O.A No. 126/2021 filed by M/s.Mahalakshmi Hatcheries Vs Union of India & 7 others in the Hon'ble National Green Tribunal (SZ), Chennai against M/s.Divis Laboratories Ltd for establishment of manufacturer of bulk drug and active pharmaceutical ingradients in Nellore District - Date of hearing on 16-07-2021 – submitting the stand taken by the Department for consideration by the Govt- Regarding

Ref: 1. This Office Letter No. 4377/P2/2017 Date.03.02.2021
2. Sri.Mrithunjayan K.M., Advocate Letter addressed to Special Chief Secretary to Govt., AHDDF Department, GoAP Date. 28.06.2021 received on 13.07.2021

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It is submitted that , vide reference 2nd cited, , Sri.Mrithunjayan K.M., Advocate has addressed Special Chief Secretary to Govt., AHDDF Department, GoAP regarding O.A.No. 126/2021 filed by M/s.Mahalakshmi Hatcheries Vs Union of India & 7 others in the Hon'ble National Green Tribunal (SZ), Chennai and informed to came up for hearing before the Hon'ble NGT, Chennai on 23.06.2021. The Hon'ble Tribunal was pleased to order the issuance of private notice through registered post returnable by 16.07.2021. It is requested to present before the Hon'ble NGT, Chennai on 16.07.2021 at 10.30 am in person or through advocate in the given date of hearing failing which the matter will be decided in absence.

In this context, it is to submit that, the case particulars has been downloaded from National Green Tribunal (SZ), and the case was filed by M/s.Mahalakshmi Hatcheries, Rep. By its Proprieter, Sri.D.Sagar Reddy, Nellore against M/s M/s.Divis Laboratories Ltd for establishment of manufacturer of bulk drug and active pharmaceutical ingradients vide O.A.No. 126/2021 with the following respondents before Hon'ble National Green Tribunal (SZ), Chennai.

1. A.P.Pollution Control Board
2. M/s.Divis Laboratories Ltd.,
3. Union of India, Ministry of Environment Forest & Climate Change
4. Coastal Aquaculture Authority
5. The District Collector
6. Ministry of Environment Forest and Climate Change
7. State of Andhra Pradesh
8. Andhra Pradesh Coastal Zone Management Authority

In this connection, it is submitted that the department of Fisheries is not named in the petition as one of the respondents. However, since the petitioner i.e., Sri Mahalakshmi Hatcheries is related to the fisheries activity, the stand of the department on the above matter , which was detailed in a letter to Govt vide reference 1" cited (copy enclosed) , may be considered by Government and accordingly inform the Standing Counsel (Ms. Madhuri Donty Reddy Contact No. 6383121322, 9840798466) representing GOAP in Hon'ble National Green Tribunal, Chennai to present the views of the Fisheries department in the matter during course of hearing. The gist of the stand taken by the department in the above stated letter to Govt. is as follows:-

"The release of effluents Pharma Industries (even after treatment in ETP) into sea water adversely affect the quality of sea water and detrimental to the existence of shrimp hatcheries. If shrimp hatcheries become extinct, the related sectors i.e shrimp farming and its ancillary business operations like feed plants, farm equipment, post harvest industries like processing plants, cold storages etc., and , exports ,employment and rural economy will be suffered and thereby affecting the economy of the State severely."

Further, it is submitted that similar stand is taken by the CAA, MPEDA and the Hatchery Associations and the department totally agrees with those views.

In view of the above, I request the Govt to kindly consider to inform the stand taken by the department as detailed in this office letter 1st cited to the Standing Counsel representing GOAP in Hon'ble National Green Tribunal, Chennai.

Encl: as above

Yours faithfully,
Sd/- K. Kanna Babu
Commissioner of Fisheries

//True Copy//

Additional Director of Fisheries (FAC)

BEFORE THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE CHENNAI

Appeal No. 68 of 2021

ADDITIONAL TYPED SET

M/s K.M.Mrithunjayan (2048/2018)

COUNSEL FOR APPELLANT

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