

Initial Environmental Examination

Document Stage: Draft for Consultation
Project Number: 48434-004
November 2022

India: Visakhapatnam-Chennai Industrial Corridor
Development Program - Tranche 2

Development of Internal Infrastructure in the Start-
up Area of Chittoor-South Industrial Cluster

Package No: VCICDP/APIIC/06A

Prepared by Andhra Pradesh Industrial Infrastructure Corporation Limited, Government of
Andhra Pradesh for the Asian Development Bank.

CURRENCYEQUIVALENTS

(As of 17 November 2022)

Currency unit	–	Indian Rupees (₹)
₹1.00	=	\$ 0.012
\$1.00	=	₹81.54

ABBREVIATIONS

ADB	–	Asian Development Bank
APPCB	–	Andhra Pradesh Pollution Control Board
APRDC	–	Andhra Pradesh Road Development Corporation
ATMs	–	Automated Teller Machines
BGL	–	Below Ground Level
BOD	–	Biological Oxygen Demand
BIS	–	Bureau of Indian Standard
CETP	–	Common Effluent Treatment Plant
COVID19	–	Corona Virus disease of 2019
CPCB	–	Central Pollution Control Board
DG	–	Diesel generator
DO	–	Dissolved Oxygen
DOE	–	Department of Environment
PMSC	–	Project Management and Supervision Consultant
EA	–	executing agency
EC	–	Environment Clearance
EAC	–	Expert Appraisal Committee
EIA	–	Environmental Impact Assessment
EMP	–	Environmental Management Plan
EMOP	–	Environmental Monitoring Plan
ESO	–	Environmental and Safety Officer
GOAP	–	Government of Andhra Pradesh
IEE	–	initial environmental examination
IMD	–	Indian Meteorological Department
IS	–	Indian Standard
MFF	–	Multi Tranche Financial Facility
MoEFCC	–	Ministry of Environment, Forests and Climate Change
MSL	–	Mean Sea Level
MW	–	Mega Watt
NSDP	–	Net State Domestic Product
NGO	–	Non-government organization
NH	–	National Highway
NO _x	–	oxides of nitrogen
PIA	–	Project Influenced Area
PIU	–	Project Implementation Unit
PUC	–	Pollution Under Control
PWD	–	Public Works Department
RF	–	Reserve Forest
ROW	–	right-of-way
REA	–	Rapid Environmental Assessment
PMSC	–	Project Management and Supervision Consultant
SEP	–	Site Environmental Plan
SEIAA	–	State Environment Impact Assessment Authority
SPS	–	Safeguard Policy Statement
TSDF	–	Treatment, Storage, and Disposal Facilities
TPD	–	Tones Per Day

VCIC	–	Visakhapatnam-Chennai Industrial Corridor
VCICDP	–	Visakhapatnam-Chennai Industrial Corridor Development Program
PM ₁₀	–	Particulate Matter 10 micrometres
PM _{2.5}	–	Particulate Matter 2.5 micrometres
PIs	–	Performance Indicators
PAPs	–	project-affected persons
R&R	–	Resettlement and Rehabilitation
R&D	–	Research and Development
HC	–	Hydrocarbons
CO	–	Carbon monoxide
NH ₃	–	Ammonia
UNFCCC	–	United Nations Framework Convention on Climate Change
VOC	–	Volatile Organic Compounds
OSHA	–	Occupational Safety and Health Administration

WEIGHTS AND MEASURES

dBa	–	decibels
°C	–	degree Celsius
km	–	kilometer
lpcd	–	liter per capita per day
m	–	meter
mgbf	–	meter below ground level
mm	–	millimeter
mld	–	million liters per day
km ²	–	square kilometer

NOTE

In this report, "\$" refers to United States dollars.

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Appendix 1: MoEF&CC Terms of Reference

F. No. 21-76/2018-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj
New Delhi - 110 003

Dated: 4th January, 2019

To

The Vice Chairman & Managing Director
APIIC Limited, 59A-20/3/2A, 1st Floor
Sri Siva Complex, Funtimes Club Road
Teachers Colony, Vijayawada - 520 008
Andhra Pradesh

Sub: Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in Villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottamedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd. - **Terms of Reference regarding.**

Sir,

This has reference to your letter no. CE(S)/APIIC/VCIC/North&South Node/Consultancy Services/2018-19 dated 5th October, 2018 submitting above mentioned proposal online on 5th October, 2018 for seeking Terms of Reference (TOR) as per the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments under the Environment (Protection) Act, 1986.

2. The proposal for Development of Industrial Park (Phase-I) as a part of Visakhapatnam Chennai Industrial Corridor Development Programme (VCICDP) at Srikalahasthi Node, Villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottamedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd. was considered by the Expert Appraisal Committee (EAC) for Industrial Estate/Area, SEZ and Highways projects in its 199th meeting held on 15th October, 2018 in the Ministry of Environment, Forest and Climate Change, New Delhi.

3. During the above meeting, the project proponent along with EIA Consultant M/s L&T Infrastructure Engineering Limited, made a presentation and provided following information to the Committee:

- (i) The proposal involves Development of Industrial Park (Phase-I) at South Block, Srikalahasthi, Node.

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- (ii) **Location:** Project site is located at Routhurmala, Gowdamala, Kothapalem, Alathuru and B.S.Puram villages in Thottambedu and B. N. Kandriga Mandals of Chittoor District, Andhra Pradesh.
- (iii) **Land use of the site and around the site up to 10 km radius:** The land use observed from the study area is Agriculture (Crop land/Planation/fallow), Barren Unculturable wasteland (Scrub/Gullied Ravinous land), etc.
- (iv) **Justification for selection of the site:** Some of the important features of the Site making it suitable for development are presented below:
- It has large and contiguous land parcel suitable for industrial development.
 - Strategically located near to the neighbouring states such as Tamil Nadu, Telangana, Chhattisgarh and Odisha and in the East Coast Economic Corridor (ECEC). The site is proximity to major consumption centers such as Chennai.
 - The existing industrial hubs in Sricity, Tirupati and Chennai offer synergies for industrial development.
 - The site is located around 95 km from Chittoor with well-endowed Social and educational infrastructure.
 - The strategic location of site with good transport facility offers comfortable access to site and other cities of India. The North side approach road is NH 71, an Internal road from the hinterland of the project site joins NH 71 lies outside the project site and the Secondary approach road is Tada - Srikalahasti road (SH - 4437), lies outside the southern part of the project site. Andhra Pradesh Road Development Corporation (APRDC) is planning to develop Link road connectivity NH 71 with the Srikalahasti – Tada Road through the project site.
 - The nearest Railway station to the project site is at Srikalahasti R.S located at 9.5 km towards W.
 - Tirupati airport is at a distance of 27.0 km SW and Chennai Airport is at a distance of 90 km SE.
 - The Nearest Port is Krishnapatnam port is at the distance of ~70 km NE from the project site, Ennore port is at the distance of ~80 km SE from the project site and Chennai port is at the distance of ~90 km SE from the project site.
 - Water and Power supply can be assured for the proposed IP will be met from Kandaleru Reservoir through approved the Bulk water supply project planned by APIIC aimed to provide reliable and continuous supply of water to the industrial clusters located in Nellore and Chittoor districts of Andhra Pradesh. APSPDCL is responsible for undertaking distribution of Power in Chittoor District.

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- No Environmental Sensitive areas such as Wild Life Sanctuary, National parks, Critical Polluted Areas, Biospheres, etc., within 10 km radius from the proposed site.
- The land use of the site is predominantly barren/un culturable/ wasteland (scrub land & salt affected) and partly agricultural crop/plantations, water bodies/streams/canals, abandoned quarrying area and one small habitation which requires Minimal R&R.

The site meets the requirement of all critical factors that are important for success of development of Industries and could be a preeminent location.

(v) **Total water requirement and its source:**

- Total one time water demand for the proposed project is ~18.0 MLD and considering the reuse of ~10.0 KLD of treated wastewater, the actual fresh water demand is ~8.0 MLD. The quantity of water required for fire protection is 0.74 MLD.
- The water requirement for the project will be met from Kandaleru Reservoir through approved the Bulk water supply project planned by APIIC aimed to provide reliable and continuous supply of water to the industrial clusters located in Nellore and Chittoor districts of Andhra Pradesh.
- Necessary Clearances as applicable will be obtained and submitted in EIA report.

(vi) **Municipal waste (domestic and or commercial wastes):** MSW is estimated to be ~15 TPD. Municipal waste in the form of canteen waste, commercial wastes from operations will be generated. Disposal of these wastes will be carried out as per prevailing norms. Details regarding quantification, collection, handling and disposal/ management shall be covered in the EIA Report.

(vii) **Hazardous wastes (as per Hazardous Waste Management Rules):** Total industrial solid waste generation is estimated to be about 102 TPD which includes hazardous and non-hazardous solid waste. Hazardous waste will be sent to new TSDF near Raviguntapalli, Nellore which 60 km north of the start-up area. Industries shall follow Hazardous and Other Waste (Management and Transboundary Movement) and amendment thereof, 2016.

(viii) **Water bodies diversion if any:** There are natural drains of varying in orders and distributary canals noticed in the project area. Planning is being done in such a way that there will not be any disturbance for the existing drainage pattern of the region/study area. Maintaining the major natural drains un disturbed with buffer and Diversion of lower order drains if any shall be carried out provided that drainage pattern of the region is maintained. Storm Water Drainage System will be provided.



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- (ix) **If the project involves diversion of forest land, extend of the forest land:** No.
- (x) **Tree cutting, types, numbers, girth size etc:** The land use of the site is predominantly barren/unculturable/ wasteland (scrub land etc.,) and partly agricultural crop. In addition there are plantations which consist of Eucalyptus/Acacia auriculiformis/Mango trees. Scattered trees of *Prosopis juliflora* and *Borassus flabellifer* were also noticed. Clearance of these present in the site is envisaged.
- (xi) **Rehabilitation involved if any:** Relocation of the Sasthriyanadhi settlement is being planned which envisages clearance of existing pucca houses, huts and other structures. Totally, 33 houses were noticed inside the sasthriyanadhi settlement, in which 15 houses are Pucca structures and 18 are huts
- (xii) **Terrain, level with respect to MSL, requirement of filling, if any:** The majority of the project site elevations are varying overall from 30 to 60 m. Terrain is not flat, undulations are noticed. Higher terrains are noticed at the North West part of the project site and the lower terrains are noticed at the south east part of the project site. Abandoned quarry elevations are reported less than 30 m.
- (xiii) **Whether the project is in Critically Polluted area:** No.
- (xiv) **If the project falls within 10 km of eco- sensitive area, Name of eco-sensitive area and distance from the project site:** No.
- (xv) **Investment/Cost of the project:** INR 466 Crores
- (xvi) **Employment potential:** Direct employment potential of about 30,000 persons.
- (xvii) **Benefits of the project:**
- The project shall bring in major investments to the region covering a wide range of sectors – connectivity, industry, social infrastructure.
 - The project when fully operational also brings in direct employment potential of about 30,000 persons (both residential and non-residential workforce) thereby opening up employment opportunities for the youth in the catchment region. Additionally, the induced development due to the project, definitely bound to bring in more benefits to the local population and the overall region. The proposed project will therefore immensely add to the social economic value of the region.
 - The proposed project is in Visakhapatnam–Chennai Industrial Corridor (VCIC), is a key part of the East Coast Economic Corridor (ECEC), India's first coastal corridor Its development which is in line with the National/State objective of improving manufacturing GDP, promoting port-led industrialization etc.,
- (xviii) **If any court case pending for violation of the environmental laws:** No.

4. Based on the deliberations in the meeting and information provided by the proponent in support of the project, the EAC recommended for grant of TOR. As per the recommendation of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords TOR for 'Development of Industrial Park (Phase-I) as a part of Visakhapatnam Chennai Industrial Corridor Development Programme (VCICDP) at Srikalahasthi Node, Villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd.' and for preparation of EIA/EMP report with public consultations subject to compliance of all conditions as notified in the standard ToR applicable for such projects and specific conditions, as mentioned below:

A. Project Specific Conditions

- (i) Detailed natural drainage management plan to be submitted and ensure that original course of drainage is not disturbed.
- (ii) Detailed greenbelt plan to be submitted.
- (iii) No Red category industry to be established along the boundary where habitation is at the distance of 200-300 m from the boundary of proposed project site.
- (iv) Source of water and its permission from the competent authority be submitted. No ground water is to be used for this project.
- (v) Industrial zoning plan shall be submitted.
- (vi) 10 air quality monitoring stations to be established during BLD collection.
- (vii) Agreement between third party TSDF (nearest to project site) and PP to ensure the safe disposal of solid waste.
- (viii) A plan for treated effluent discharged into deep sea through pipelines.

B. General Conditions

- (i) Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental damage, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
- (ii) Submit the details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.
- (iii) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.

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- (iv) Examine the impact of proposed project on the nearest settlements.
- (v) Examine baseline environmental quality along with projected incremental load due to the project taking into account of the existing developments nearby.
- (vi) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) biodiversity, (f) noise and vibrations, (g) socio economic and health.
- (vii) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area, and any obstruction of the same by the project.
- (viii) Details regarding project boundary passing through any eco- sensitive area and within 10 km from eco-sensitive area.
- (ix) Green buffer in the form of green belt to a width of 15 meters should be provided all along the periphery of the industrial area. The individual units should keep 33% of the allotted area as a green area.
- (x) Submit the details of the trees to be felled for the project.
- (xi) Submit the details of the infrastructure to be developed, if applicable.
- (xii) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
- (xiii) Submit details regarding R&R involved in the project
- (xiv) Zoning of the area in terms of 'type of industries' coming-up in the industrial area based on the resource requirement along with likely pollutants with quantity from the various industries.
- (xv) The project boundary area and study area for which the base line data is generated should be indicated through a suitable map. Justification of the parameters, frequency and locations shall be discussed in EIA.
- (xvi) Submit Legal frame work for the implementation of Environmental Clearance conditions - to be clearly spelt out in the EIA report.
- (xvii) Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
- (xviii) Site justification of the identified industry sectors from environmental angle and the details of the studies conducted if any.
- (xix) Ground water classification as per the Central Ground Water Authority.
- (xx) Submit the source of water, requirement vis-a-vis waste water to be generated along with treatment facilities, use of treated waste water along with water balance chart taking into account all forms of water use and management.
- (xxi) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine and submit details.

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- (xxii) Examine soil characteristics and depth of ground water table for rainwater harvesting.
- (xxiii) Examine details of solid waste generation treatment and its disposal.
- (xxiv) Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.
- (xxv) In case DG sets are likely to be used during construction and operational phase of the project, emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
- (xxvi) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
- (xxvii) A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
- (xxviii) Examine the details of transport of materials for construction which should include source and availability.
- (xxix) Examine noise levels - present and future with noise abatement measures.
- (xxx) Identify, predict and assess the environmental and sociological impacts on account of the project. A detailed description with costs estimates of CSR should be incorporated in the EIA/EMP report.
- (xxxi) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
- (xxxii) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
- (xxxiii) Details of litigation pending against the project, if any, with direction/order passed by any Court of Law against the Project should be given.
- (xxxiv) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- (xxxv) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/IndustrialEstate>".

5. Following general guidelines shall be strictly adhered:

- (i) The EIA document shall be printed on both sides, as far as possible.
- (ii) All documents should be properly indexed, page numbered.

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- (iii) Period/date of data collection should be clearly indicated.
- (iv) Authenticated English translation of all material provided in Regional languages.
- (v) The letter/application for EC should quote the MoEF&CC File No. and also attach a copy of the letter prescribing the TOR.
- (vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.
- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Questionnaire related to the project (posted on MoEF&CC website) with all sections duly filled in shall also be submitted at the time of applying for EC.
- (viii) Grant of TOR does not mean grant of EC.
- (ix) Grant of TOR/EC to the present project does not mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.
- (x) Grant of EC is also subject to Circulars and Office Memorandum issued under the EIA Notification 2006 and subsequent amendments, which are available on the MoEF&CC website: www.envfor.nic.in.
- (xi) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.
- (xii) On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TOR (TOR proposed by the project proponent and additional TOR given by the MoEF) have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4th August, 2009).
- (xiii) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4th August, 2009). The project Coordinator of the EIA study shall also be mentioned.
- (xiv) All the TOR points as presented before EAC shall be covered.

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6. A detailed draft EIA/EMP report shall be prepared in terms of the above additional TOR and should be submitted to the State Pollution Control Board for Public Hearing. Public Hearing to be conducted for the project in accordance with the provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing shall be conducted based on the TOR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the website.

7. The project proponent shall submit the detailed final EIA/EMP report prepared as per TOR including issues raised during Public Hearing to the Ministry for considering the proposal for environmental clearance within 3 years as per the MoEF&CC OM No J-11013/41/2006-IA-II(I) (Part) dated 29th August, 2017.

8. The consultants involved in 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. vide notification of the MoEF dated 19th July, 2013.

9. The prescribed TOR would be valid for a period of three years for submission of the EIA/EMP Reports.

Received
04/01/2019
(Raghu Kumar Kodali)
Director/Scientist F

Copy to:

The Member Secretary, Andhra Pradesh Pollution Control Board, D. No. 33-26-14
D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalamalavari Street,
Kasturibaipet, Vijayawada – 520 010

Received
04/01/2019
(Raghu Kumar Kodali)
Director/Scientist F

Appendix 2: Environmental Clearance

File No.: 21-76/2018-IA.III
[Proposal No. IA/AP/NCP/80694/2018]

Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, Ali Ganj
New Delhi – 110 003

Dated: 11th November, 2020

To,
Vice Chairman and Managing Director (VCMD)
Andhra Pradesh Industrial Infra Structure Corporation
4th Floor, Parisrama Bhavan, 5-9-58/B, Fateh Maidan Road
Hyderabad, Telangana-500 004

Subject: Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd., Routhusurumala, Gowdamala, Kothapalem, Alathuru and B.S.Puram revenue villages in Thottambedu and B. N. Kandriga Mandals of Chittoor District, Andhra Pradesh - Environmental Clearance

Sir,

This has reference to your online proposal to this Ministry on 17th Sep 2020 regarding Environmental Clearance for Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd.

2. APIIC has identified a parcel of land of about 2770 acres (~1121 ha) at Srikalahasthi Node in Thottambedu and B. N. Kandriga Mandals of Chittoor District, Andhra Pradesh to establish Industrial Park for attracting industries under Building Materials Industry/Non Metallic minerals, Electronics and Consumer Durable Industry, Engineering Industries (Machinery/Electrical Equipment's/Automobile etc.), Food and Agro Processing, Apparels and Textile manufacturing, Chemical and Pharma Industry, Logistic & Ware house and MSME (includes Leather, Plastics, wood etc.) sectors.

The infrastructure development being proposed includes water supply, water distribution, internal roads, storm water drains, electrical distribution network, internal street lighting, wastewater and waste management facilities, other utilities such as technical and support buildings, housing along with allied facilities. Apart from industrial area there will be technical infrastructure facilities, amenities & utilities, township and logistics facilities. The total cost of the project is ₹ 390.0 Crores. As per Schedule of EIA Notification, 2006, the extant proposal falls under 7 (c) Category A. No CRZ clearance is required for the proposed project. ToR for the project was accorded vide letter no. F. No. 21-76/2018-IA.III dated 4th January, 2019.

3. The Public Hearing was conducted on July 24, 2020 by APPCB. The meeting was conducted by the panel consisting of DRO Chittoor District, Environmental Engineer, Regional office, Andhra Pradesh Pollution Control Board, Tirupathi, Chittoor District. As per the approved

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ToR it is ensured that "No Red category industry will be established within 300 m of settlement along the boundary of proposed project site.

4. The water demand is estimated at 17.16 MLD including fire water demand among which 8.75 MLD (including losses) is fresh water and remaining 5.84 MLD as recycled water. To have a reliable continuous supply of surface water for the Industries, the bulk water supply of 4.55 TMC raw water is proposed for industrial clusters in southern region of Andhra Pradesh with Kandaleru reservoir as source on daily drawl basis and to permit to draw the allocated water at 2.6 km on TGP canal (sankuranthipalle weir). Estimated Volume of run-off that can be harvested will be 56262.31 Volume (m³)/year. Rainwater harvesting techniques will be adopted at park and industrial level.

5. Total municipal solid waste generation is estimated as ~15 TPD and estimated Industrial Solid Waste Generation is ~ 102 TPD, which includes hazardous and non-hazardous solid waste. Reusable waste will be used with the premises whereas recyclable waste will be collected, stored and disposed to agencies authorised by APPCB for Recycling. Hazardous waste will be sent to new TSDF near Raviguntapalli, Nellore which 60 km north of project site. To ensure the safe disposal of solid waste, M/s Coastal Waste Management Project (Unit-2) by M/s Mumbai Waste Management Limited (a subsidiary of M/s Ramky Enviro Engineers Limited) gave consent for accepting the Hazardous waste generated from member industries of IP. Industries shall follow Hazardous and other Waste (Management and Transboundary Movement) and amendment thereof, 2016.

6. It is proposed to develop a CETP of ultimate capacity of 5.11 MLD on a Modular basis (1.2 MLD initially) and STP of 1.2 MLD capacity. The proposed treatment systems will cater to all the proposed industry needs of Industrial Park and flexible to accommodate all types of effluent anticipated to be generated.

7. The Total power demand for the Phase -1 project area is 92 mVA it is proposed to provide 132/33 kv substations within the project site to cater the industrial, residential, commercial and other requirements. The power will be sourced from the nearest sub-station of APTRANSCO. Estimated Installation Capacity for Solar Power Harness is 18.0 MW.

8. The land classification for the project is Government land which is 599.29 acres, DKT land/assigned land is 1494.05 acres and Patta land is 161.03 acres. Land under water bodies, village site, and road, quarry area which are undeveloped lands in the project area is 392.32 acres and unidentified land in project area is 123.31 acres. An area of 1104.13 acres is in possession of APIIC and comprise of government land transferred and assigned land resumed and remaining land is under process of acquisition. No R&R is proposed for the settlement existing in the project boundary.

9. Benefits of the project: The surrounding population would get maximum benefits from upcoming of new industries and its allied ancillary units in shape of direct and indirect employment, self-employment and start up skill development opportunities. Proposed Industrial Park is likely to generate direct employment of 51215 nos., out of which employ population is 42680 and floating population is 8535 numbers.

10. The EAC during its 243rd meeting on 28-30th September, 2020, taken into account the submissions made by the project proponent M/s Andhra Pradesh Industrial Infrastructure Corporation (APIIC) Limited that the current proposal only pertains to the Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District

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Chittoor, Andhra Pradesh has recommended the proposal for grant of Environmental Clearance subject to fulfilment of specific conditions other than all standard conditions applicable for this project.

11. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects) and hereby decided to grant Environmental Clearance for the "Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District Chittoor, Andhra Pradesh" under the EIA Notification, 2006 as amended and CRZ Notification 2011, subject to strict compliance of the following specific conditions, in addition to all standard conditions applicable for such projects.

A. SPECIFIC CONDITIONS

- (i) To achieve the Zero Liquid Discharge, waste water generated from different industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses.
- (ii) The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured/recorded to ensure the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six Monthly Monitoring reports.
- (iii) All the recommendation of the EMP shall be complied with in letter and spirit.
- (iv) The member units shall provide storage tanks for storage of effluent for monitoring the characteristics of effluent before taking into the CETP for further treatment.
- (v) Proper meters with recording facilities shall be provided to monitor the effluent quality and quantity sent from member industries to CETP and from CETP to the final disposal/re-use on a continuous basis.
- (vi) Ambient noise levels shall conform to the prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during development/ construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/SPCB.
- (vii) Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016.
- (viii) Rain water harvesting for roof run-off and surface run-off, as plan submitted shall be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The bore well for rainwater recharging shall be kept at least 4 mts above the highest ground water table.
- (ix) As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the

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Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

B. STANDARD CONDITIONS:

I. Statutory compliance:

- (i) The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
- (ii) The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- (iii) All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
- (iv) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- (v) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

- (i) The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- (ii) Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
- (iii) Dust collectors shall be deployed in all areas where surface cleaning and painting operations are to be carried out, supplemented by stacks for effective dispersion.
- (iv) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- (v) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried

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out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation:

- (i) Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- (ii) Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
- (iii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- (iv) No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.

IV. Noise monitoring and prevention:

- (i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- (ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- (iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- (iv) The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures:

- (i) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- (ii) Provide LED lights in their offices and project areas.

VI. Waste management:

- (i) Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
- (ii) The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- (iii) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

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- (iv) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- (v) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Belt:

- (i) An overall green area of at-least 33% of the Industrial Area should be developed with native species. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt.
- (ii) The Industrial Areas are directed to accordingly allocate the area to be developed as green cover to respective individual industrial units so as to achieve the above mentioned condition.
- (iii) The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area for the area allocated to them to be developed as green cover as a part of obligation from the Industrial Area.
- (iv) Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.
- (v) The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.

VIII. Public hearing and human health issues:

- (i) Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
- (ii) Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
- (iii) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- (iv) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (v) Occupational health surveillance of the workers shall be done on a regular basis.

X. Environment Responsibility:

- (i) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions.

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The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

- (ii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- (iii) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (iv) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

XI. Miscellaneous:

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents 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.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (v) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (vi) The criteria pollutant levels namely; PM_{2.5}, PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (vii) The project proponent 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, commencing the land development work and start of production operation by the project.
- (viii) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

- (ix) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (x) No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- (xi) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiii) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xiv) The Regional Office of this Ministry 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.
- (xv) The above conditions shall 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- (xvi) Any appeal against this EC 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.

14. This issues with the approval of the Competent Authority.


(Amandeep Raju)
Scientist-E

Copy to:

1. The Principal Secretary, Department of Forests & Environment and Chairman, Govt. of Andhra Pradesh, A.P. Secretariat, Velagapudi, Amaravathi, A.P.
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32
3. The Member Secretary, AP Pollution Control Board, Chalamalavari Street, Kasturibaipet, Vijayawada – 520 010.
4. The APCCF (C), Tulja Guda Complex, building, M.J. Market, Hyderabad, (Andhra Pradesh) – 500001
5. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
6. Guard File/Record File
7. Notice Board.


(Amandeep Raju)
Scientist-E

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Appendix 3: Water Allocation

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Water Resources Department - Allocation of 4.55 TMC of water from Kandaleru Reservoir to Andhra Pradesh Industrial Infrastructure Corporation Ltd., (APIIC) for supplying water to Industrial Clusters in Southern Region of AP in Nellore and Chittoor Districts - Permission Accorded - Orders - Issued.

WATER RESOURCES (REFORMS) DEPARTMENT

G.O.MS.No. 43

Dated: 15-03-2019

Read the following:

1. From the Vice Chairman & Managing Director, APIIC, Lr.No.CE-1/APIIC/WD/Gen/2014-15, Dated: 09.12.2018.
2. From the Chief Engineer, NTR TGP, Tirupati Lr.No.CE/TGP/TPT/DW/ EE1/ DEE1/ AEE2/ Industrial Water/ 187/ dated:11. 03. 2019

ORDER:

In the reference 1st read above, the Andhra Pradesh Industrial Infrastructure Corporation Ltd., (APIIC) has requested to allocate bulk water of 4.55 TMC to prioritized Industrial Clusters in Southern Region of the state with Kandaleru Reservoir as source on daily drawl basis and to permit to draw the allocated water at Km 2.600 on TGP canal (Sankuranthipalle pickup weir) as follows:

S.No	Industrial Cluster	Water Requirement in TMC
1	Krishnapatnam Node	1.91
2	Naidupeta, Nellore District (Naidupeta IP+MPSEZ + Athivaram	0.28
3	Yerpedu-Srikalahasti, Chittoor District (North Block, South Block)	1.78
4	IP, Mambattu, Nellore District	0.07
5	Chinapanduru(Hero Motor Corp & Apollo Tyres)	0.07
6	Sri City, Chittoor	0.43
	Total	4.55

2. The Chief Engineer, NTR Telugu Ganga Project, Tirupati in his letter 2nd read above has furnished his report on the proposal of Andhra Pradesh Industrial Infrastructure Corporation Ltd.,(APIIC).

3. Taking into consideration the report of Chief Engineer, NTR Telugu Ganga Project, Tirupati, Government, after careful examination of the matter, hereby accord permission to APIIC to draw 4.55 TMC of water to supply water to Industrial Clusters in Southern Region of the state from Kandaleru Reservoir subject to payment of water royalty charges @ Rs. 5.50 per 1000 gallons as per the Govt. Memo.No.2772/Reforms/A2/2015-1, Water Resources Department, dated: 30.09.2015 and other usual conditions.

4. The Engineer in Chief (Irrigation), Water Resources Department, Vijayawada and Chief Engineer, NTR Telugu Ganga Project, Tirupati shall take necessary action accordingly.

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

**SHASHI BHUSHAN KUMAR
SECRETARY TO GOVERNMENT**

To
The Engineer-in-Chief(Irrigation), Water Resources Department, Andhra Pradesh, Vijayawada.
The Chief Engineer, NTR Telugu Ganga Project, Tirupati.

Copy to:
The Vice Chairman & Managing Director, APIIC, Vijayawada.
The PS to Secretary to Government, Industries & Commerce Department, A.P. Secretariat.
The PS to Hon'ble Minister, Water Resources Department.
The PS to Secretary to Government, Water Resources Department.
The Superintending Engineer, SSLC & SB Circle, Nellore.

// FORWARDED :: BY ORDER //

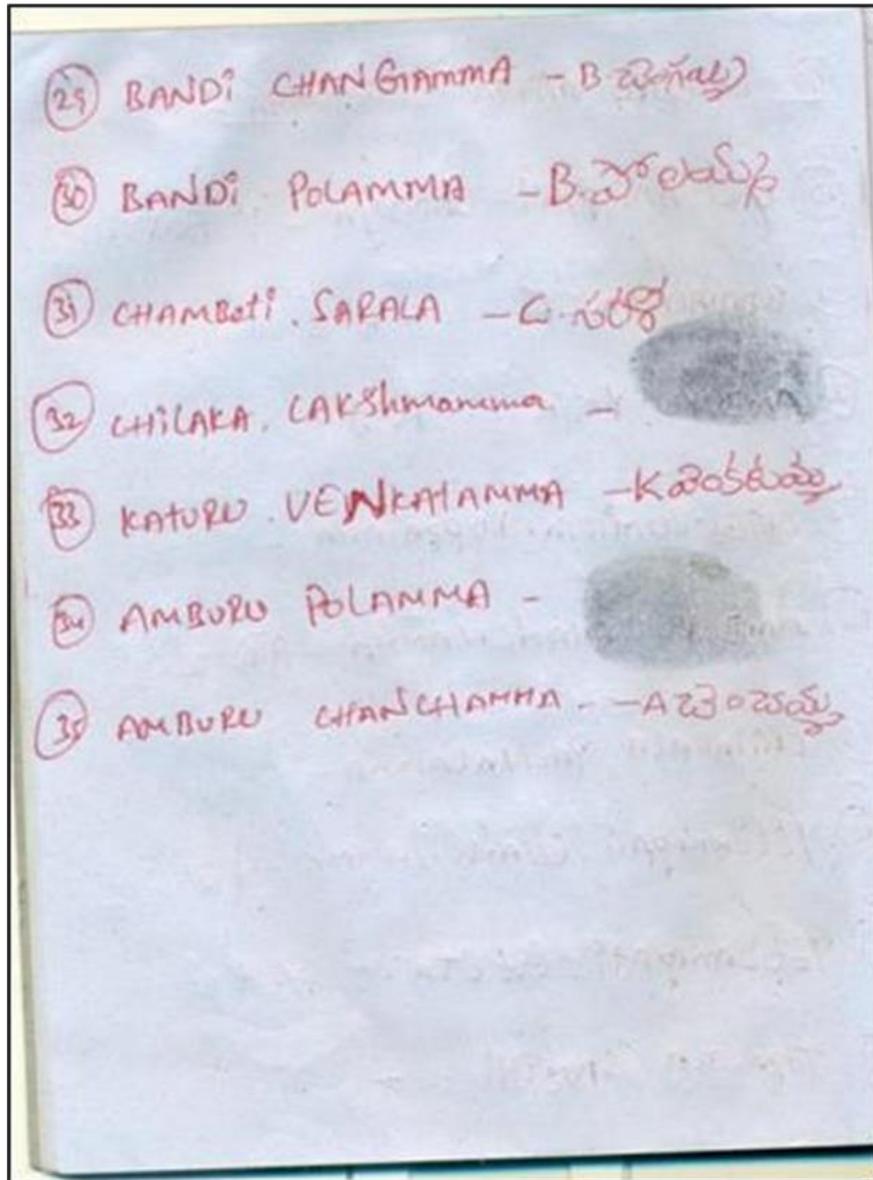
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Appendix 4: List of Participants during Social Consultation at Sastriyanadhi Colony

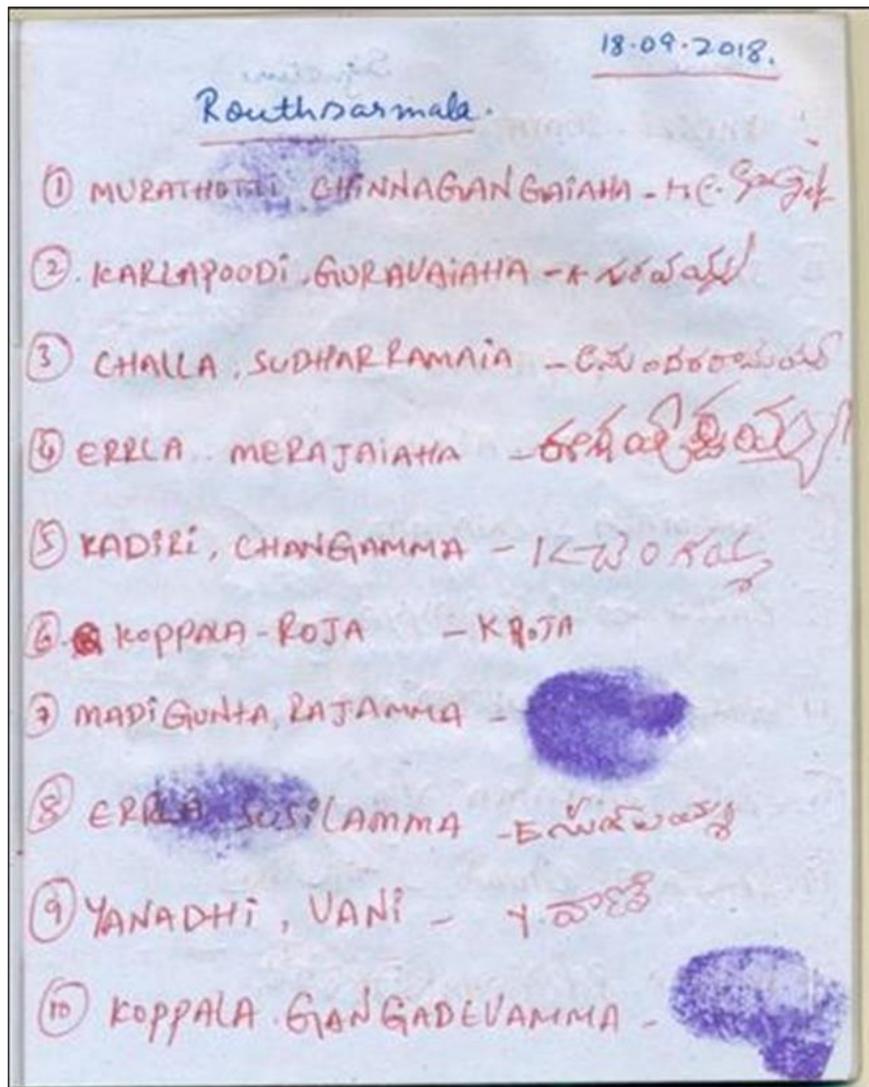
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① Addhuru Peddamma -		18.09.2018
② Tupakula Adhilakshmi -	T. Adhilakshmi	
③ Tupakula Chinamma -		
④ Egala Bujamma -		
⑤ Bandi Jyothi -	B. Jyothi	
⑥ Amburu Chanchamma -		
⑦ Tupakula Kannamma -		
⑧ Chilakala Munamma -		
⑨ Chilakala Venkatamma -		

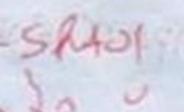
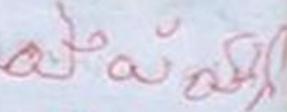
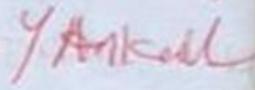
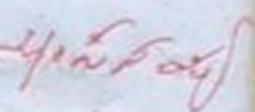
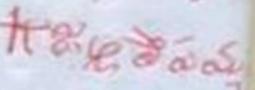
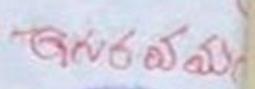
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- (10) CHILAKALA - SASTHAMMA - 70
 - (11) AMBURU - NAGAMMA - A P N
 - (12) AMBURU GOPAL -
 - (13) BAMALA SUBBA RAMAIAHA -
 - (14) AMBURU RAMAIAHA -
 - (15) BAMALA RAMANAMMA -
 - (16) TUPAKULA SURESH -
 - (17) TUPAKULA MONIRATHNAM -
 - (18) TUPAKULA CHANGAMMA -

- (19) CHIGURU MITTA VENKATAMMA - చిగురుమిట్టా
- (20) YELLAMPATI SANDYA - Y. Sandhya
- (21) BAMBALAKAVERI - B. Kaveri
- (22) AMBURU ROJA - ROJA
- (23) CHIGURUMITTA KUPPAIATHA -
- (24) AMBURU CHANCHAMMA - అంబురుచాంఛమ్మా
- (25) CHILAKALA, PACHALAMMA -
- (26) YELLAMPATI, CHANCHAMMA - యెల్లంపాటిచాంఛమ్మా
- (27) YELLAMPATI, GEETA - Y. Geeta
- (28) TUPAKULA SANTHI - T. Santhi

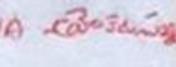
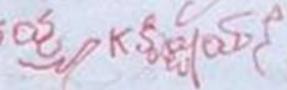
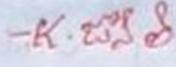
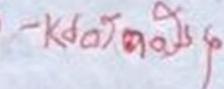
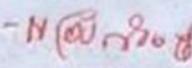
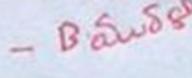
- 
- A handwritten list of seven participants, numbered 29 to 35, written in red ink on a light-colored paper. Each entry consists of a circled number, a name, and a location or identifier. The text is somewhat blurry and includes some scribbles.
- 29 BANDI CHANGAMMA - B. 200/10
 - 30 BANDI POLAMMA - B. 200/10
 - 31 CHAMBEI SARALA - C. 100/8
 - 32 CHILAKA, CAKSHMANAMA - [scribble]
 - 33 KATURU VENKATAMMA - K. 200/10
 - 34 AMBURU POLAMMA - [scribble]
 - 35 AMBURU CHANCHAMMA - A. 200/10

List of participants during social consultation at Routhusuramala



Name	Signature
11 KADIRI . SUMATI	
12 SANGANA PALLI, RAVI	
13 PAIPORI PAPAIATHA	
14 YANAMALA ANKAATHA	
15 YANAMALA SECNAATHA	
16 KARLA POODI PAPAYYA	
17 GANBI BERI BURAVATHA	
18 ERRA, JAYARAMAATHA	
19 GANBIA BERIMANI	
20 KOPPALA PAPAIATHA	

Name	Signature
(21) DAGGOLU RAMANAIYAH	R. S. D.
(22) KOPPALA BALARAMAIAH	S. V. S. S. S.
(23) KOPPALA KRISHNAIAH	K. S. S. S.
(24) KOPPALA GANGAMMA	K. S. S. S.
(25) KOPPALA DORABABU	K. S. S. S.
(26) KADIRI PENCHALAIYAH	
(27) KOPPALA RAMANAIYAH	K. S. S. S.
(28) KOPPALA VAMSI	K. S. S. S.
(29) KOPPALA SANKARAMMA	
(30) KOPPALA YALLAMMA	

Name	Signature
31 Koppala . NARASAMMA -	
32 GANDAM . LAKSHMINA -	
33 CHINTARAPODI , VENKATASOBBANA -	
34 YANADI . CHANCHAIAPA -	
35 KARLA POODI JYOTHI -	
36 KARLA POODI : RAMANAMMA -	
37 NELABALLI . PRASANTHI -	
38 GANGIPOODI . PILUPU -	
39 KANNALA PRAMEKUMAR -	
40 BANDI MURALI -	

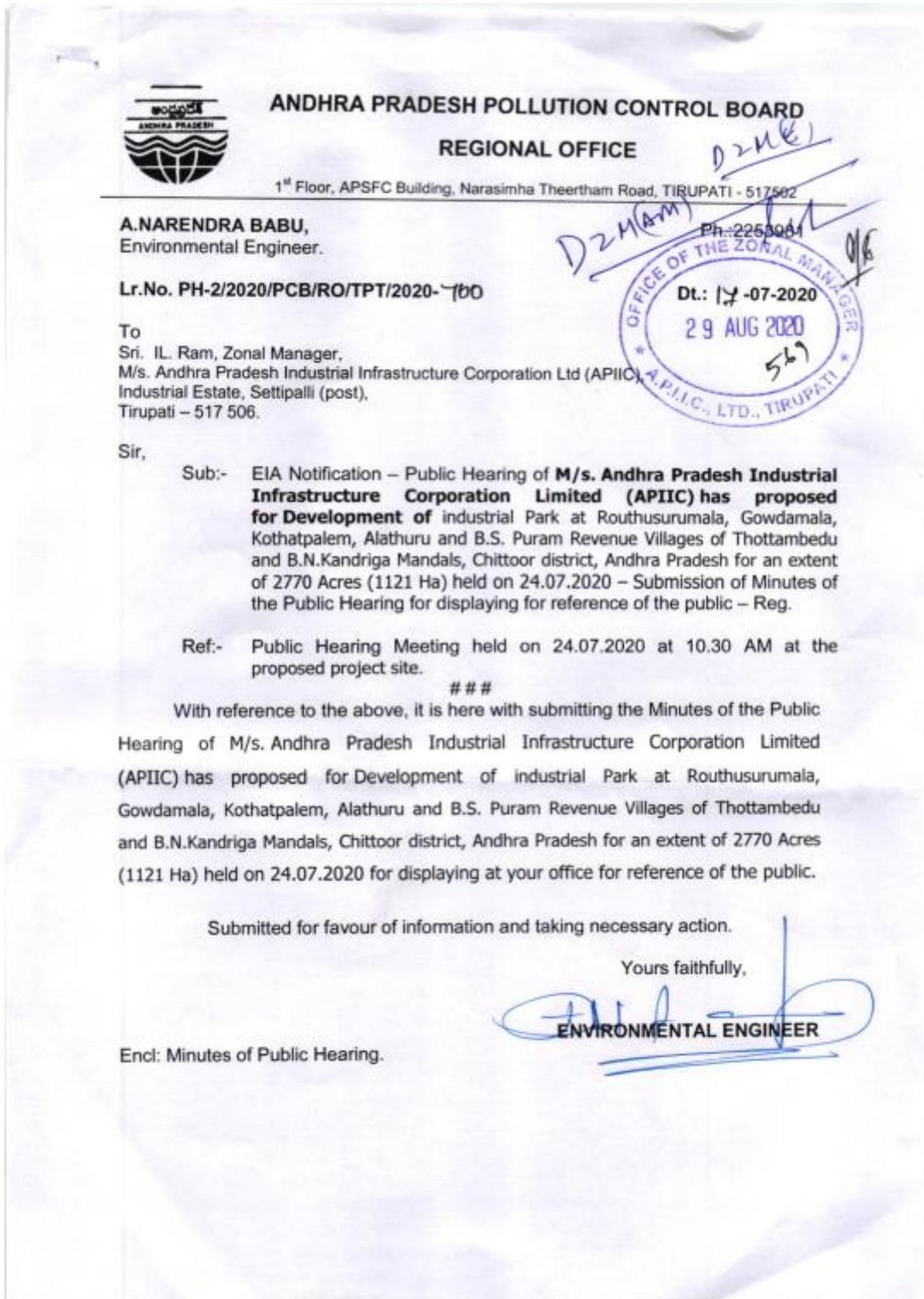
List of participants during social consultation at Kothapalem

Name	Kotla Aalem	Signature 19.9.2018
1. C. Saktasawati	-	C. Saktasawati
2. B. Reddamma	-	B. Reddamma
3. P. Rudraiah	-	P. Rudraiah
4. K. Laxamma	-	K. Laxamma
5. G. Sudhiv.	-	G. Sudhiv.
6. Nageswar Rao Reddy	-	Nageswar Rao Reddy K. Nageswar Rao Reddy
7. K. Subbasreddy	-	K. Subbasreddy
8. D. Madhavayya	-	D. Madhavayya
9. C. Myrniswamy	-	C. Myrniswamy
10. T. Govind Saraf	-	T. Govind Saraf
11. C. Murugesan	-	C. Murugesan
12. K. Ramanamma	-	K. Ramanamma
13. E. Venkata muniyetti	-	E. Venkata muniyetti

Name	Signature
14. A. Chandrappa Reddy	A. Chandrappa Reddy
15. M. Ramanamma	M. Ramanamma
16. Subbaramma	Subbaramma
17. B. Ramanama	B. Ramanama
18. K. Leelavathi	K. Leelavathi
19. B. Eswaramma	B. Eswaramma
20. P. Gokkamma	P. Gokkamma
21. M. Chinmahanesha	Chinmahanesha
22. K. Maxmi Reddy	K. Maxmi Reddy
23. P. Prasad	P. Prasad
24. P. Subbatao	P. Subbatao
25. K. Chiranjeevulu	K. Chiranjeevulu
26. K. Padmmama	K. Padmmama
27. V. Krishna	V. Krishna

Name	Signature
28. K. Subramanyam	- K. Subramanyam
29. K. Subramanyam achari	- K. Subramanyam
30. D. Venkatataiah	- D. Venkatataiah
31. T. Chitalayya	- T. Chitalayya
32. A. Muni Ramayya	- A. Muni Ramayya

Appendix 5: Minutes of Public Hearing and Consultations



Minutes of the Environmental Public Hearing of M/s. Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC) on proposed Industrial park at Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram Revenue Villages of Thottambedu and B.N.Kandriga Mandals, Chittoor district, Andhra Pradesh for an extent of 2770 Acres (1121 Ha) held on 24.07.2020 at 10.30 am.

In accordance with the Notification No. S.O. 1533 dt.14.09.2006 of Ministry of Environment & Forests, Government of India, New Delhi, the Environmental Engineer, Andhra Pradesh Pollution Control Board, Regional Office, Tirupati issued a notification pertaining to the Environmental Public Hearing on the proposed Industrial park by **M/s. Andhra Pradesh Industrial Infrastructure Corporation Ltd (APIIC)** near at Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram Revenue Villages of Thottambedu and B.N.Kandriga Mandals, Chittoor district, Andhra Pradesh for an extent of 2770 Acres (1121 Ha) in leading newspapers Enadu & Hans India on 23.06.2020 inviting suggestions, views, comments and objections of the general public and the same was conducted on 24.07.2020 at 10.30 am and the minutes of the meeting is as follows:

The following Officials attended the Environmental Public Hearing:

- | | |
|----------------------------------|--|
| 1) Sri. N. Rajasekhar | District Revenue Officer & Additional District Magistrate
Chittoor Dist. and Chairman of the Environmental Public Hearing Panel. |
| 2) Sri. P.V.Kishore Reddy | Member Convener & Environmental Engineer (FAC)
APPCB, Regional Office, Tirupati. |

The following Departmental Officials attended the hearing:

- 1) Sri. E.Prathap, General Manager, District Industries Centre.
- 2) Sri. V.Madana Mohana Reddy, AEE, RO, Tirupati.

Representatives of the Industry:

- 1) Sri. Prathap Reddy, Executive Director, M/s. Andhra Pradesh Industrial Infrastructure Corporation Ltd (APIIC), Chittoor.
- 2) Sri. C.Yettiraju, Zonal Manager, M/s. Andhra Pradesh Industrial Infrastructure Corporation Ltd (APIIC), Chittoor.
- 3) Sri. Subramanyam Namburu, Environmental Consultant of the project, M/s. L&T Infra Engineering Ltd, Hyderabad.

The Environmental Engineer (FAC), A.P. Pollution Control Board, Tirupati welcomed the District Revenue Officer, Chittoor District and the Public gathered at the Public Hearing venue and explained the need to conduct Public Hearing for the project as per the Ministry of Environment & Forests, Govt. of India, New Delhi notification 2006.

He also explained as per the Terms of Reference (TOR), Ministry of Environment, Forest and Climate Change, (Impact Assessment Division) Government of India, New Delhi issued Terms of Reference (TOR) No: F.No. 21-76/2018-IA. III, dt. 04.01.2019 it is necessary to get the public hearing conducted for this type of project for obtaining the Environment Clearance in accordance with the procedure prescribed under the EIA Notification 2006. This proposed project is an industrial park establishing by M/s. APIIC of an extent of 2770 Acres (1121 Ha) for facilitating the upcoming industries. Then the Environmental Engineer (FAC) requested District Revenue Officer & Additional District Magistrate, Chittoor District and Chairman of the Environmental Public Hearing Panel to take over the proceedings of the Environmental Public Hearing.

Then, The District Revenue Officer, Chittoor District and Chairman of the Environmental Public Hearing Panel while speaking on the occasion welcomed the gathering and informed that, M/s. APIIC has acquired an extent of land 2770 Ac at 5 villages located in 2 mandals i.e., Thottambedu & B.N.Kandriga for establishing an industrial park for facilitating

the all kinds of industries. While speaking he also stressed the importance of establishing of eco friendly industries / minimum polluting industries in the interest of surrounding environment. He also informed that pollution control board will continuously monitoring the industries to maintain Environmental standards.

He also informed that, 60% of revenue of our country is getting from the agricultural sector and there is a every need to develop industrial sectors for all-round development of our country. The proposed industrial park of M/s. APIIC is being nearer to Chennai and may attract enthusiastic investors as all the infrastructure facilities are soon available and the logistics. He also brought to the notice about a successful industrial park i.e., SEZ Sricity which is also functioning in Chittoor district at an about of 7000 Ac.

The proposed industrial park may create lot of job opportunities to the surrounding people and may result the improvement of the living standards of surrounding people.

Then the District Revenue Officer, Chittoor District and Chairman of the Environmental Public Hearing Panel requested the public to express their views, suggestions and objections if any on the proposed industrial park after explaining the salient futures of the proposed project by the proponent / environmental consultant of the project.

Then Sri. Subramanyam Namburu, Environmental Consultant of the project, M/s. L&T Infra Engineering Ltd, Hyderabad while explaining the salient features of the proposed project on behalf of the proponent of the project informed to the public that the proposed project is an industrial park of an extent of 2770 Acres (1121 Ha). The proposed project is a part of the Vishakapatnam – Chennai industrial corridor (VCIC). The industries proposed to establish in the proposed industrial park are building material industries / non metallic minerals, Electronics and Consumer Durable industry, Engineering industries (Machinery / Electrical Equipment's / Automobile etc.), Food and Agro

Processing industry, Apparels and Textiles industry, Chemical and Pharma industry, Logistic and Ware house, MSME (includes Leather, Plastics, Wood etc.,).

The proposed project requires 17.16 MLD of water which is proposed to drawn from Kandaleru River and proposed to generate 5.1 MLD of effluents and sewage of 1.20 MLD. The effluents will be treated Common Effluents Treatment Plant (CETP) with Zero Liquid Discharge (ZLD) facility and sanitary effluents will be treated in STP of 1.2 MLD capacity. The proposed project may generate 15 TPD of MSW and 102 TPD of Hazardous / Non-Hazardous waste. The MSW will be treated as per the MSW Rules and Hazardous waste will be sent to TSDF for further treatment.

The proposed industrial park proposed to develop green belt of an area 387.59 Ac of Greenbelt that works out to be a 13.99% greenbelt overall, remaining about 19.0% of greenbelt will be developed by the individual industries to maintain 33% of greenbelt as per the norms of the Government.

He further informed that, they have collected base line data of surrounding environment i.e., from 10 km radius during the period October 2018 to January 2019, around the project site to assess the impacts arising due to the establishment of Industrial Park. Maximum concentrations of all the parameters viz., PM10, PM2.5, SO2, NO2, etc., are well within the limits as per National Ambient Air Quality Standards (NAAQS). The proponent of the proposed industrial park has also prepared risk analysis, disaster management plan, traffic and transport management plan and social impact assessment.

The proposed industrial park is proposed to spent corresponding CSR budget on surrounding villages and also proposed to spent CER budget of Rs.6.35 Crores on identified activities.

Sri S.Rajendranadh Reddy, Resident of Routhusurumala (V) while speaking on occasion welcomed the proposed project and brought the following to the notice of the Public hearing panel.

1. He requested the authority to establish the more green and MSME industries at the proposed industrial park.
2. He requested the authorities to develop more green belt area adjacent to the existing villages and further requested not to establish any industry adjacent to the villages.
3. Requested not to establish RED category industries adjacent to the villages.
4. Requested to establish a high school at his village and also requested to establish Rural Skill Development centre to train the unemployed youth.
5. Requested to establish primary health centre in co-ordination with DMHO, Chittoor for beneficiary of the surrounding villagers for treating seasonal diseases viz., Malaria, Dengue, Etc.
6. He also requested to establish micro food processing industries for beneficiary of surrounding villages to create employment for women living in the surrounding villages.

Sri Kanta Reddy, Resident of Tallapudi (V) while speaking on occasion welcomed the proposed project and brought to the notice on the committee on cancellation of DKT pattas issued by the Government. He further requested the authorities to provide more job opportunities to the surrounding villages.

Sri V.Ramaiah, Resident of Routhusurumala (V) while speaking on occasion, expressed his unhappy on non providing of job opportunities to the local peoples at the existing industries. He further requested to provide good number of job opportunities in the upcoming industrial park.

Sri K.Venkatesulu, Resident of Alathuru (V) while speaking on occasion, Requested the committee to consider the concerns of his village also along with other villages on the benefits availing due to the establishment of industrial park.

Sri C.Subramanyam, Resident of Gowdamala (V) while speaking on occasion, Requested the committee to short out the technical issues involved in the land alienation and corresponding payments shall be made to the land losers.

Then, Sri. Yettiraju, Zonal Manager, M/s. APIIC answered the following on the concerns raised by the public during the public hearing.

- i. Payment will be paid to all the land losers under land acquisition procedure as per the norms of the Governments.
- ii. Survey has been completed for an extent of 1075 Ha and payments will be released shortly.
- iii. Though the M/s. APIIC is acquiring an extent of 2770 Acres (1121 Ha). But industries will be established at an area of 1300 Acres and remaining land will be meant for roads, Colonies and Green belt development, etc.,
- iv. Majority of the jobs will be provided to the surrounding villages as per the norms of the Government.
- v. Skill development programme will be conducted.

Then the District Revenue Officer, Chittoor District and Chairman of the Environmental Public Hearing Panel while making the conclusive remarks informed the following.

- i. He appreciated the decision of M/s. APIIC on proposal for conducting of Skill development programme for providing job opportunities to women belonging into the surrounding villages.
- ii. He informed that, with regard to an extent of 1410 Acres of DKT lands, already an amount of Rs. 42 Crores has paid to the farmers remaining 72 Crores will be paid shortly.
- iii. With regard to the cancellation of the Pattas issued to the certain farmers in the year 2011, he informed that the said patta lands should have brought into the use for agricultural purpose within 3

7

years from the date of issue of the pattas. Those who failed to do this, their pattas might have cancelled.

- iv. However, he informed that this issue will take to the notice of the District Collector with the information obtained from local Thasildar and help the farmers as per the land accusation Act.

On seeing no more suggestions / objections from the public the District Revenue Officer, Chittoor District and Chairman of the Environmental Public Hearing Panel, while making the conclusive remarks informed to the public that all the views suggestions expressed during the public hearing meeting will be sent to government for taking decision. Then he concluded the Environmental Public Hearing with a positive note and the public hearing programme was ended with vote of thanks by Asst. Environmental Engineer, APPCB, RO, Tirupati.

Environmental Engineer (FAC)
APPCB, Regional Office,
Tirupati.

District Revenue Officer &
Additional District Magistrate,
Chittoor, Chittoor District

Appendix 6: Government order no GO.RT. No. 163 dated 08-06-2018 for establishment of Grievance Redressal Mechanism

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

VCICDP - Establishment of Project Grievance Redress Mechanism (GRM) at three levels to cover both environmental and social issues - Orders - Issued.
=====

INDUSTRIES AND COMMERCE (INFRA) DEPARTMENT

G.O.RT.No. 163 Dated: 08-06-2018
Read the following:

1. Facility Administrative Manual (FAM) of VCICDP.
2. From the Commissioner of Industries, Vijayawada,
15/1/2014/11427/VCIC-GRM. Dated:31-05-2018
&&&

ORDER:

In the reference 2nd read above, the Commissioner of Industries has stated that at SI. No. 95, Page No. 42 of the Facility Administrative Manual of the VCICDP, the Project Grievance Redress Mechanism (GRM) is envisaged, wherein, it is directed to establish Project GRM at three levels to cover both Environmental and Social issues.

2. The Commissioner of Industries has proposed for establishment of Project Grievance Redress Mechanism at three levels with the following provisions and requested the Government to take a view on the establishment of Project GRM and issue orders:-

- a. The GRM shall be established and disclosed to the project affected communities.
- b. The Project Grievance Redress Committee, supported by the consultants of PMSC and Safeguard officers of both the PMU and PIUs, will be responsible for timely redress of grievances on Environmental and Social Safeguards issues.
- c. The Grievance Redress Committee is also responsible for Registration of Grievances, Related Disclosure and Communication with the aggrieved parties.
- d. A complaint register shall be maintained at the field unit, PIU and PMU levels with details of 1. Complaint lodged, 2. Date of Personal Hearing, 3. Action Taken and 4. Date of communication sent to the complainant.
- e. Contact Details, Procedure and Complaint Mechanism shall be disclosed to the Project Affected Communities at accessible locations and through various Media (Leaflets, Newspapers etc.,)

3. Government after careful examination of the proposal, hereby establish the Project Grievance Redress Mechanism at three levels is as follows:-

1st Level Grievance:

The Contact Number of the PIU office should be made available at the construction site signboards. The contractor and field unit staff can immediately resolve onsite, seek the advice of the PIU Safeguard Manager as required, within seven (7) days of receipt of the complaint / grievance.

2nd Level Grievance:

All grievances that could not be redressed within seven (7) days at Field / Ward level shall be reviewed by the GRC at District Level headed by Joint Collector of the respective District. GRC shall attempt to resolve them within fifteen (15) Days. The Safeguard Manager of the PIU shall be responsible to see through the process of redressal of each grievance.

(P.T.O)

-2-

3rd Level Grievance:

All grievances that cannot be redressed within fifteen (15) days at District Level shall be reviewed by the Grievance Redressal Committee (GRC) at State Level headed by the Project Director, VCICDP PMU, with support from District GRC, PMU, Social Safeguards and Gender Officer (SSGO), Environmental Safeguard Officer of PMU. Environmental and Social Safeguard Specialists of PMSC shall coordinate the GRC to ensure that the grievances be resolved within fifteen (15) days. The SSGO of PMU shall be responsible to see through the process of redressal of each grievance pertaining to the Social Safeguards

4. Government hereby constitute the Grievance Redressal Committee (GRC) at District level with the following composition:

1.	Joint Collector of the Concerned District	Chairman
2.	Project Engineer of the concerned field unit	Member Secretary
3.	Revenue Divisional Officer (RDO) or sub-collector of the division	Member
4.	Project Director, DRDA	Member
5.	Chief Executive Officer, Zilla Parishad	Member
6.	District Panchayat Officer	Member
7.	District Education Officer	Member
8.	District Medical and Health Officer	Member
9.	District level representative of DISCOM	Member
10.	Superintendent Engineer, RWS Panchayat Raj Department	Member
11.	Three members from affected persons, with at least one of them a woman DP	Member
12.	Team Leader of the resettlement plan implementation support NGO or Agency	Member

5. The functions of the Grievance Redressal Committee (GRC) at District level are as follows:

- a) GRC at District Level shall receive, evaluate and facilitate the resolutions of displaced person's concerns, complaints and grievances.
- b) The GRC shall provide an opportunity to the affected persons to have their grievances redressed prior to approaching the State Level LARR Authority, constituted by the GoAP in accordance with Section 51 (1) of the RFCTLARR Act, 2013.
- c) The GRC is aimed to provide a trusted way to voice and resolve concerns linked to the project, and to be an effective way to address displaced person's concerns without allowing it to escalate resulting in delays in project implementation.
- d) The GRC shall meet once in every month and review and redress any grievances / complaints. Periodical monthly reports shall be submitted to the Project Director, VCICDP PMU in the prescribed proforma.

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-3-

- e) The GRC will continue to function, for the benefit of the displaced persons, during the entire life of the project including the defects liability period. The entire resettlement component of the project has to be completed before the construction starts, and pending grievances resolved. Other than disputes relating to ownership rights and apportionment issues on which the LARR Authority has jurisdiction.
 - f) GRC will review grievances involving all resettlement benefits, relocation and payment of assistances.
 - g) The GRCs will function out of each district where the subprojects are being implemented. The existing setup for coordination, monitoring and grievance redress at district level which meets once a month, will be used for VCICDP.
 - h) An annual fund of Rs.1.00 Lakhs shall be allocated to each GRC for their operations like convening monthly review meetings, preparing and distributing brochures, leaflets etc.
6. The Project Director, PMU, VCICDP shall be the Appellate Authority and shall be supported by the Safeguards Officer of PMU, VCICDP and the Team Leader of PMSC. This shall be the highest Grievance Redressal Mechanism at the project level.
7. The Project Monitoring Unit (PMU), Project Implementing Units (PIUs) and Grievance Redressal Committees (GRCs) shall update the status of complaints / grievances in the VCIC Web-Site.
5. The Project Director, PMU, VCICDP shall take further necessary action in the matter, accordingly.

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

S.SOLOMON AROKIARAJ
SECRETARY TO GOVERNMENT & CIP

To

The Project Director, Project Monitoring Unit, VCICDP, Vijayawada.
The Chairman and all the members through PD, PMU, Vijayawada.

Copy to:

The District Collectors, Visakhapatnam, East Godavari, Krishna
and SPS Nellore.

P.S. to Minister for Industries

P.S. to Prl. Secretary to CM (GSP)

Sc/Sf

//FORWARDED BY: ORDER//

SECTION OFFICER

Appendix 7: Ambient Air Quality Standards

S. No	Pollutant	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and Other Area	Ecologically sensitive area (notified by Central Govt.)	
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20	<ul style="list-style-type: none"> Improved West and Geake Ultraviolet fluorescence
		24 hours**	80	80	
2.	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	30	<ul style="list-style-type: none"> Modified Jacob & Hochheiser (Na-Arsenite) Chemiluminescence
		24 hours**	80	80	
3.	Particulate Matter (size less than 10 µm) or PM ₁₀ µg/m ³	Annual*	60	60	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	100	100	
4.	Particulate Matter (size less than 2.5 microns) or PM _{2.5} µg/m ³	Annual*	40	40	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	60	60	
5.	Ozone (O ₃) µg/m ³	8 hours**	100	100	<ul style="list-style-type: none"> UV photometric Chemiluminescence Chemical method
		1 hour**	180	180	
6.	Lead (Pb) µg/m ³	Annual*	0.5	0.5	<ul style="list-style-type: none"> ASS / ICP method after sampling on EPM 2000 or equivalent filter paper ED – XRF using Teflon filter
		24 hours**	1.0	1.0	
7.	Carbon Monoxide (CO) mg/m ³	8 hours**	2	2	Non Dispersive Infra RED (NDIR) Spectroscopy
		1 hour**	4	4	
8.	Ammonia (NH ₃) µg/m ³	Annual*	100	100	<ul style="list-style-type: none"> Chemiluminescence Indophenol blue method
		24 hours**	400	400	
9.	Benzene (C ₆ H ₆) µg/m ³	Annual*	5	5	<ul style="list-style-type: none"> Gas chromatography based continuous analyser Adsorption and desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP) – particulate phase only ng/m ³	Annual*	1	1	Solvent extraction followed by HPLC / GC analysis
11.	Arsenic (As) ng/m ³	Annual*	6	6	AAS / ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni) ng/m ³	Annual*	20	20	AAS / ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic means of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored value, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

Appendix 8: Ambient Noise Standards

Area Code	Category of Zones	Limits of Leq in dB(A)	
		Day time*	Night time*
A	Industrial	75	70
B	Commercial	65	55
C	Residential	55	45
D	Silence Zone **	50	40

Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

Appendix 9: Drinking Water Standards (IS10500:2012)

S. No.	Parameter	Unit	Requirement (Acceptable Limit)	Permissible Limit in Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
1	Colour (Max)	Hazen	5	15	Part 4	Extended to 15 only, if toxic substances are not suspected in absence of alternate sources
2	Odour	--	Agreeable	Agreeable	Part 5	a) Test cold and when heated b) Test at several dilutions
3	Taste	--	Agreeable	Agreeable	Parts 7 and 8	Test to be conducted only after safety has been established
4	Turbidity (Max)	NTU	1	5	Part 10	--
5	pH	--	6.5 to 8.5	No Relaxation	Part 2	--
6	Temperature	°C	--	--	--	--
7	Electrical conductivity	μ mhos/cm	--	--	--	--
8	Salinity	ppt	--	--	--	--
9	Total solids		--	--	--	--
10	Total Hardness as CaCO ₃ (Max)		200	600	Part 21	--
11	Total Alkalinity as Calcium Carbonate (Max)		200	600	Part 23	--
12	Iron as Fe (Max)		0.3	No Relaxation	Part 53	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
13	Chlorides as Cl (Max)		250	1000	Part 32	
14	Free Residual Chlorine (Min)	mg/l	0.2	1	Part 26	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be minimum 0.5 mg/l
15	Total dissolved solids (Max)		500	2000	Part 16	--
16	Calcium as Ca (Max)		75	200	Part 40	--
17	Magnesium as Mg (Max)		30	100	Part 46	--
18	Copper as Cu (Max)		0.05	1.5	Part 42	--
19	Manganese as Mn (Max)		0.1	0.3	Part 59	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
20	Sulphate as SO ₄ (Max)		200	400	Part 24	May be extended to 400 provided that Magnesium does not exceed 30
21	Nitrate as NO ₃ (Max)	mg/l	45	No Relaxation	Part 34	--
22	Fluorides as F (Max)		1	1.5	Part 60	--

S. No.	Parameter	Unit	Requirement (Acceptable Limit)	Permissible Limit in Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
23	Sodium as Na		--	--	--	--
24	Potassium as K		--	--	--	--
25	Total Nitrogen		--	--	--	--
26	Total phosphorous		--	--	--	--
27	Free Ammonia as NH ₄		--	--	--	--
28	Phenolic compounds as C ₆ H ₅ OH (Max)		0.001	0.002	Part 43	--
29	Biochemical oxygen demand		--	--	--	--
30	Chemical oxygen demand		--	--	--	--
31	Dissolved oxygen		--	--	--	--
32	Mercury as Hg (Max)		0.001	No Relaxation	Part 48(1) Mercury analyser	--
33	Cadmium as Cd (Max)		0.003	No Relaxation	Part 4 (I)	--
34	Selenium as Se (Max)		0.01	No Relaxation	IS 3025 (Part 56) or IS 15303*	In case of dispute, the method indicated by *, shall be the referee method
35	Arsenic as As (Max)		0.01	0.05	Part 37	--
36	Cyanides as CN (Max)		0.05	No Relaxation	Part 27	--
37	Lead as Pb (Max)		0.01	No Relaxation	Part 47	--
38	Zinc as Zn (Max)		5	15	Part 49	--
39	Anionic detergent as MBAS (Max)		0.2	1	Annex K of IS 13428	--
40	Chromium as Cr ⁶⁺ (Max)		0.05	No Relaxation	Part 52	--
41	Total coli forms	MPN/100 ml	Shall not be Detectable in any 100 ml sample		IS 1622	--
42	Faucal coli forms					--
It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 5, above which the sources will have to be rejected						

Appendix 10: Surface Water Standards

Tolerance and Classification

As per ISI-IS: 2296-1982, the tolerance limits of parameters are specified as per classified use of water (Table 1,2,3,4,5 below) depending on various uses of water. The following classifications have been adopted in India.

Class of Water

Classification	Type of use
Class A	Drinking water source without conventional treatment but after disinfection
Class B	Outdoor bathing
Class C	Drinking water source with conventional treatment followed by disinfection.
Class D	Fish culture and wild life propagation
Class E	Irrigation, industrial cooling or controlled waste disposal

TOLERANCE LIMITS

TABLE-1: TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – A

S. No. (1)	Characteristic (2)	Tolerance (3)
(i)	pH	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l,	6
(iii)	Bio-chemical Oxygen Demand	2
(iv)	Total Coliform Organisms, MPN/100 ml, Max	50
(v)	Colour, Hazen units, Max	10
(vi)	Odour	unobjectionable
(vii)	Taste	Agreeable taste
(viii)	Total Dissolved Solids, mg/l, Max	500
(ix)	Total Hardness (as CaCO ₃), mg/l, Max	300
(x)	Calcium Hardness (as CaCO ₃), mg/l, Max	200
(xi)	Magnesium (as CaCO ₃), mg/l, Max	100
(xii)	Copper (as Cu), mg/l, Max	1.5
(xiii)	Iron (as Fe), mg/l, Max	0.3
(xiv)	Manganese (as Mn), mg/l, Max	0.5
(xv)	Chlorides (as Cl), mg/l, Max	250
(xvi)	Sulphate (as SO ₄), mg/l, Max	400
(xvii)	Nitrates (as NO ₂), mg/l, Max	20
(xviii)	Fluorides (as F ₂), mg/l, Max	1.5
(xix)	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	0.002
(xx)	Mercury (as Hg), mg/l, Max	0.001
(xxi)	Cadmium (as Cd), mg/l, Max	0.01
(xxii)	Selenium (as Se), mg/l, Max	0.01
(xxiii)	Arsenic (as As), mg/l, Max	0.05
(xxiv)	Cyanides (as CN), mg/l, Max	0.05
(xxv)	Lead (as Pb), mg/l, Max	0.1
(xxvi)	Zinc (as Zn), mg/l, Max	15
(xxvii)	Chromium (as Cr ⁶⁺), mg/l, Max	0.05
(xxviii)	Anionic detergents, (as MBAS), mg/l, Max.	0.2
(xxix)	Poly-nuclear aromatic hydrocarbons (PAH),	0.2
(xxx)	Mineral oil, mg/l, Max	0.01
(xxxi)	Barium (as Ba), mg/l, Max	1
(xxxii)	Silver (as Ag), mg/l Max	0.05
(xxxiii)	Pesticides	Absent
(xxxiv)	Alpha emitters, µc/ml, Max	10 ⁻⁹
(xxxv)	Beta emitters, µc/ml, Max	10 ⁻⁸

TABLE- 2: TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – B

S. No (1)	Characteristic (2)	Tolerance Limit (3)
(i)	pH Value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, Max	5
(iii)	Biochemical Oxygen Demand (5 days at 20 °C), Max	3
(iv)	Total Coliform Organisms, MPN/100 ml, Max	500
(v)	Fluorides (as F) <mg/l, Max	1.5
(vi)	Colour, Hazen units, Max	300
(vii)	Cyanides (as CN), mg/l, Max	0.05
(viii)	Arsenic (as As), mg/l, Max	0.2
(ix)	Phenolic Compounds (as C ₆ H ₅ OH) mg/l, Max	0.005
(x)	Chromium (as Cr ⁶⁺), mg/l, Max	1
(xi)	Anionic detergents (as MBAS), mg/l, Max	1
(xii)	Alpha emitters, µc/ml, Max	10 ⁻⁸

TABLE – 3: TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – C

S. No. (1)	Characteristic (2)	Tolerance Limit (3)
(i)	pH Value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l Minimum	4
(iii)	Biochemical Oxygen Demand	3
(iv)	Total coliform organisms, MPN/100 ml, Max	5000
(v)	Colour, Hazen units, Max	300
(vi)	Fluorides (as F), mg/l, Max	1.5
(vii)	Cadmium (as Cd), mg/l, Max	0.01
(viii)	Chlorides (as Cl), mg/l, Max	600
(ix)	Chromium (as Cr ⁶⁺), mg/l, Max	0.05
(x)	Cyanides (as CN), mg/l, Max	0.05
(xi)	Total Dissolved Solids, mg/l, Max	1500
(xii)	Selenium (as Se), mg/l, Max	00.5
(xiii)	Sulphates (as SO ₄), mg/l, Max	400
(xiv)	Lead (as Pb), mg/l, Max	0.1
(xv)	Copper (as Cu), mg/l,Max	1.5
(xvi)	Arsenic (as As), mg/l, Max	0.2
(xvii)	Iron (as Fe), mg/l, Max	50
(xviii)	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	0.005
(xix)	Zinc (as Zn), mg/l, Max	15
(xx)	Insecticides, mg/l, Max	Absent
(xxi)	Anionic detergents (as MBAS), mg/l, Max	1
(xxii)	Oils and grease, mg/l, Max	0.1
(xxiii)	Nitrates (as NO ₃), mg/1, Max	50
(xxiv)	Alpha emititers, µc/mg, Max	10 ⁻⁹
(xxv)	Beta emitters, µc/ml, Max	10 ⁻⁸

TABLE- 4: TEOLERANCE LIMITS FOR INLAND SURFACE WATERS, CALSS – D

S. No. (1)	Characteristic (2)	Tolerance Limit (3)
(i)	pH value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, Min.	4
(iii)	Free Ammonia (as N), mg/l, Max.	1.2
(iv)	Electrical Conductance at 25 °C, µS, Max	1000
(v)	Free Carbon Dioxide (as CO ₂), mg/1, Max	6
(vi)	Oils and Grease, mg/l, Max	0.1
(vii)	Alpha emitters, µc/ml, Max	10-9
(viii)	Beta emitters, µc/ml, Max	10-8

TABLE- 5: TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – E

S. No.	Characteristic	Tolerance Limit
(1)	(2)	(3)
(i)	pH value	6.0 to 8.5
(ii)	Electrical Conductance at 25°C, µS, Max	2250
(iii)	Sodium Adsorption Ratio, Max	26
(iv)	Boron (as B), mg/l, Max	2
(v)	Total Dissolved Solids, (inorganic), mg/l, Max	2100
(vi)	Sulphates (as SO ₄), mg/l, Max	1000
(vii)	Chlorides (as Cl), Mg/l, Max	600
(viii)	Sodium Percentage, Max	60
(ix)	Alpha emitters, µc/ml, Max	10-9
(x)	Beta emitters, µc/ml, Max	10-8

Appendix 11: Soil Standards

S. No	Soil Tests	Classification
1.	pH	<4.50 extremely acidic 4.51 -5.00 very strongly acidic 5.01 – 5.50 Strongly acidic 5.51 – 6.00 moderately acidic 6.01 – 6.50 Slightly acidic 6.51 – 7.30 neutral 7.31 – 7.80 Slightly alkaline 7.81 – 8.50 moderately alkaline 8.51 – 9.00 Strongly alkaline 9.01 Very strongly alkaline
2.	Salinity Electrical Conductivity (mmhos/cm) (1 mmho/cm = 640 ppm)	Upto 100 average 101 – 200 harmful to germination 201 – 300 harmful to crops (Sensitive to salts)
3.	Organic Carbon	Upto 0.2 : Very less 0.21 – 0.4 : less 0.41 – 0.5 : medium 0.51 – 0.8 : On an average sufficient 0.81 – 1.0 : Sufficient > 1.0 : More than sufficient
4.	Nitrogen (kg/ha)	Upto 59 very less 51 – 100 less 101 – 150 good 151 – 300 better Above 300 sufficient
5.	Phosphorus (kg/ha)	Upto 15 very less 16 – 30 less 31 – 50 medium 51 – 65 on an average sufficient 66 – 80 Sufficient Above 80 more than sufficient
6.	Potassium (kg/ha)	0 – 120 very less 120 – 180 less 181 – 240 medium 241 – 300 average 301 – 360 better Above 360 more than sufficient

Source: Indian Council of Agricultural Research, New Delhi

Appendix 12: Emission Standards for Diesel Engines (Engine Rating More Than 0.8 Mw (800 Kw) For Power Plant, Generator Set Applications and Other Requirements

(Emission Standards for Diesel Engines (Engine Rating more than 0.8 MW (800 KW) were notified by the Environment (Protection) Third Amendment Rules 2002, vide G.S.R. 489 (E), dated 9th July, 2002 at serial no. 96, under the Environment (Protection) Act, 1986.)

EMISSION STANDARDS FOR DIESEL ENGINES (ENGINE RATING MORE THAN 0.8 MW (800 KW)) FOR POWER PLANT, GENERATOR SET APPLICATIONS AND OTHER REQUIREMENTS

Parameter	Area Category	Total engine rating of the plant (includes existing as well as new generator sets)	Generator sets commissioning date		
			Before 1.7.2003	Between 1.7.2003 and 1.7.2005	On or after 1.7.2005
NO _x (as NO ₂) (AT 15% O ₂), dry basis, in ppmv	A	Upto 75 MW	1100	970	710
	B	Upto 150 MW			
	A	More then 75 MW	1100	710	360
	B	More then 150 MW			
NMHC (as C) (at 15% O ₂), mg/Nm ³	Both A and B		150	100	
PM (at 15% O ₂), mg/Nm ³	Diesel Fuels- HSD & LDO	Both A and B	75	75	
	Furnace Oils- LSHS & FO	Both A and B	150	100	
CO (at 15% O ₂), mg/Nm ³	Both A and B		150	150	
Sulphur Content in fuel	A		< 2%		
	B		< 4%		
Fuel specification	For A only	Up to 5MW	Only Diesel fuels (HSD, LDO) shall be used.		
Stack height (for generator sets commissioned after 1.7.2003)	Stack height shall be maximum of the following, in meter: (i) $14 Q^{0.3}$, Q= Total SO ₂ emission from the plant in kg/hr. (ii) Minimum 6 m. above the building where generator set is installed. (iii) 30 m.				

Appendix 13: General Standards for Discharge of Environmental Pollutants Part-A: Effluents

S. No.	Parameter	Standards			
		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
1	Colour and odour	See 6 of Appendix 9	--	See 6 of Appendix 9	See 6 of Appendix 9
2	Suspended solids mg/l, Max.	100	600	200	(a) For process wastewater- 100 (b) For cooling water effluent 10 percent above total suspended matter of influent.
3.	Particulate size of suspended solids	Shall pass 850 micron IS Sieve	--	--	(a) Floatable solids, max. 3 mm. (b) Settleable solids, max. 850 microns
² 4.	***	*	--	***	--
5.	pH Value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	shall not exceed 5°C above the receiving water temperature	--	--	shall not exceed 5°C above the receiving water temperature
7.	Oil and grease mg/l Max.	10	20	10	10
8.	Total residual chlorine mg/l Max.	1.0	--	--	1.0
9.	Ammonical nitrogen (as N), mg/l Max.	50	50	--	50
10.	Total Kjeldahl Nitrogen (as NH ₃) mg/l, Max.	100	--	--	100
11.	Free ammonia (as NH ₃) mg/l, Max.	5.0	--	--	5.0
12.	Biochemical Oxygen demand 1[3 days at 27°C] mg/l max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/l, max.	250	--	--	250
14.	Arsenic (as As), mg/l, max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg), mg/l, Max.	0.01	0.01	--	0.01
16	Lead (as Pb) mg/l, Max.	0.1	1.0	--	2.0
17.	Cadmium (as Cd) mg/l, Max.	2.0	1.0	--	2.0
18.	Hexavalent Chromium (as Cr ⁺⁶), mg/l max.	0.1	2.0	--	1.0
19.	Total chromium (as Cr.) mg/l, Max.	2.0	2.0	--	2.0
20.	Copper (as Cu) mg/l, Max.	3.0	3.0	--	3.0
21.	Zinc (As Zn.) mg/l, Max.	5.0	15	--	15
22.	Selenium (as Se.) mg/l, Max.	0.05	0.05	--	0.05
23.	Nickel (as Ni) mg/l, Max.	3.0	3.0	--	5.0
² 24.	*****				
² 25.	*****				

S. No.	Parameter	Standards			
		Inland surface water	Public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
² 26.	*****				
27.	Cyanide (as CN) mg/l Max.	0.2	2.0	0.2	0.2
² 28.	*****				
29.	Fluoride (as F) mg/l Max.	2.0	15	--	15
30.	Dissolved Phosphates (as P), mg/l Max.	5.0	--	--	--
² 31.	*****				
32.	Sulphide (as S) mg/l Max.	2.0	--	--	5.0
33.	Phenoile compounds (as C6H5OH) mg/l, Max.	1.0	5.0	--	5.0
34.	Radioactive materials:				
	(a) Alpha emitter micro curie/ml.	10-7	10-7	10-8	10-7
	(b) Beta emitter micro curie/ml.	10-6	10-6	10-7	10-6
35.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
36.	Manganese (as Mn)	2 mg/l	2 mg/l	--	2 mg/l
37.	Iron (as Fe)	3 mg/l	3 mg/l	--	3 mg/l
38.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	--	0.2 mg/l
39.	Nitrate Nitrogen	10 mg/l	--	--	20 mg/l
² 40.	*****				

¹ Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993.

² Omitted by Rule 2(d)(i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No.G.S.R.801(E), dated 31.12.1993.

Appendix 14: Rapid Environmental Assessment (REA) Checklist

Instructions:

- This checklist is to be prepared to support the environmental classification of a project. It is to be attached to the environmental categorization form that is to be prepared and submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department.
- This checklist is to be completed with the assistance of an Environment Specialist in a Regional Department.
- This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation and (v) gender and development.
- Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Country/Project Title:	Visakhapatnam Chennai Industrial Corridor Development Program (VICIDP) Srikalahasti node – South block (Start-Up Area)
Sector Division:	SAUW, SARD

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting			
Is the project area...			
• Densely populated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Heavy with development activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Adjacent to or within any environmentally sensitive areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Cultural heritage site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Protected Area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Wetland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Mangrove	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Estuarine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Buffer zone of protected area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Special area for protecting biodiversity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Bay	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Potential Environmental Impacts			
• interference with other utilities and blocking access to buildings; nuisance areas due to noise and odor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Impairment of historical/cultural monuments/areas and loss/damage to these sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposed to relocate Sastriyanadi Colony after

SCREENING QUESTIONS	Yes	No	REMARKS
			the consent from people.
<ul style="list-style-type: none"> social conflicts between construction workers and local community workers? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<ul style="list-style-type: none"> noise and dust from construction activities? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Noise/dust mitigation measure such as acoustic enclosures, water sprinkling etc., will be provided
<ul style="list-style-type: none"> air pollution resulting from emissions from production process, accidents, and poor equipment maintenance? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Each industry will have its own air pollution control measures and emissions and stack height within permissible limits of APPCB/CPCB will be maintained.
<ul style="list-style-type: none"> pollution of water bodies and aquatic ecosystem resulting from production wastes, utility operations, sanitary sewage, and miscellaneous discharges? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ZLD is proposed for the Wastewater and Adequate SWM is proposed for the Solid waste.
<ul style="list-style-type: none"> Contamination of soil and groundwater from solid wastes from water treatment sludges, cafeteria or lunchroom wastes, ashes and incineration residues, etc.? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No solid waste or sludge will be dumped in and near project site. It will be sent MSW disposal site and industrial waste to nearby TSDF.
<ul style="list-style-type: none"> Public health and safety hazards due to air pollution and possible groundwater contamination? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Considering the mitigation measures proposed no contamination is envisaged.
<ul style="list-style-type: none"> Road blocking and/or increased traffic during construction of facilities 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Existing road network will be adequate to handle the generated traffic during construction
<ul style="list-style-type: none"> Pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Discharge outside premises is envisaged
<ul style="list-style-type: none"> Contamination of surface and ground waters due to improper waste disposal? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ZLD is proposed for the Wastewater and Adequate SWM is proposed for the Solid waste

Appendix 15: Checklist for Preliminary Climate Risk Screening

Country/Project Title:

Sector:

Subsector:

Division/Department:

Screening Questions		Score	Remarks ¹
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?	0	
	Would the project design (e.g., the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g., prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro- meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g., construction material)?	0	
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g., annual power production) of project output(s) (e.g., hydro-power generation facilities) throughout their design life time?	0	

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____ **Low** _____

¹ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Other

Comments: _____

Prepared by: _____

Appendix 17: Sample Annual Environmental Monitoring Report Template

This template must be included as an appendix in the IEE that will be prepared for EACH sub-project. It can be adapted to the specific subproject as necessary.

I. Introduction

Overall project description and objectives

Description of subprojects

Environmental category of the subprojects

Details of site personnel and/or consultants responsible for environmental monitoring

Overall project and subproject progress and status

No.	Subproject Name	Status of Subproject				List of Works	Progress of Works
		Design	Preconstruction	Construction	Operational Phase		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Compliance status with national/state/local statutory environmental requirements

No.	Subproject Name	Statutory Environmental Requirements	Status of Compliance	Action Required

Compliance status with environmental loan covenants

No. (List Schedule and Paragraph Number of Loan Agreement)	Covenant	Status of Compliance	Action Required

II. Compliance Status with The Environmental Management and Monitoring Plan

- a. Provide the monitoring results as per the parameters outlined in the EMP. Append supporting documents where applicable, including environmental site inspection reports.
- b. There should be reporting on the following items which can be incorporated in the checklist of routine environmental site inspection reports, followed with a summary in the semi-annual report send to ADB. Visual assessment and review of relevant site documentation during routine site inspection need to note and record the following:

What are the dust suppression techniques followed for site, and if any dust was noted to escape the site boundaries;

If muddy water was escaping site boundaries, or muddy tracks were seen on adjacent roads;

Adequacy of type of erosion and sediment control measures installed on-site, condition of erosion and sediment control measures, including if these were intact following heavy rain;

Are there designated areas for concrete works and refueling;

Are there spill kits on site, and if there are site procedure for handling emergencies;

Is there any chemical stored on site and what is the storage condition;

Are there any dewatering activities, if yes, where is the water being discharged;

How are the stockpiles being managed;

How are solid and liquid waste being handled on-site;

Review of the complaint management system; and

Checking if there are any activities being undertaken outside of working hours, and how that is being managed.

Summary Monitoring Table

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum, those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Design Phase						
Pre-construction Phase						
Construction Phase						
Operational Phase						

Overall Compliance with EMP

No.	Subproject Name	EMP Part of Contract Documents (Y/N)	EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

III. Approach and Methodology for Environmental Monitoring of The Project

Brief description on the approach and methodology used for environmental monitoring of each subproject.

IV. Monitoring of Environmental Impacts on Project Surroundings (Ambient Air, Water Quality, And Noise Levels)

Brief discussion on the basis for monitoring

Indicate type and location of environmental parameters to be monitored

Indicate the method of monitoring and equipment to be used

Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

Air Quality Results

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM10 µg/m3	SO2 µg/m3	NO2 µg/m3

Water Quality Results

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity µS/cm	BOD mg/l	TSS mg/l	TN mg/l	TP mg/l

Noise Quality Results

Site No.	Date of Testing	Site Location	LAeq (dBA) (Government Standard)	
			Day-time	Night-time

V. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

Summary of follow up time-bound actions to be taken within a set timeframe.

APPENDIXES

Photos

Summary of consultations

Copies of environmental clearances and permits

Sample of environmental site inspection report

Other

Appendix 18: Sample Environmental Site Inspection Report

Project Name

Contract Number

NAME: _____ DATE: _____

TITLE: _____ DMA: _____

LOCATION: _____ GROUP: _____

WEATHER CONDITION: _____

INITIAL SITE CONDITION: _____

CONCLUDING SITE CONDITION:

Satisfactory _____ Unsatisfactory _____ Incident _____

Resolved _____ Unresolved _____

INCIDENT:

Nature of incident: _____

Intervention steps: _____

Incident issues: Resolution	Project activity stage	Survey	
		Design	
		Implementation	
		Pre-commissioning	
		Guarantee period	
Inspection			
Emissions	Waste minimization		
Air quality	Reuse and recycling		
Noise pollution	Dust and litter control		
Hazardous substances	Trees and vegetation		
Site restored to original condition	Yes		No

Signature

Sign off

Name
Position

Name
Position

Appendix 19: Construction Site Checklist for EMP Monitoring

Project Name: RUSDP Name of the Contractor: Yes (√) No (x)

Monitoring Details: _____

EHS supervisor appointed by contractor and available on site

- Construction site management plan (spoils, safety, material, schedule, equipment etc..) prepared
- Traffic management plan prepared
- Dust is under control
- Excavated soil properly placed within minimum space
- Construction area is confined; no traffic/pedestrian entry observed Surplus soil/debris/waste is disposed without delay
- Construction material (sand/gravel/aggregate) brought to site as & when required only
- Tarpaulins used to cover sand & other loose material when transported by vehicles After unloading, wheels & undercarriage of vehicles cleaned prior to leaving the site
- No AC pipes disturbed/removed during excavation
- No chance finds encountered during excavation
- Work is planned in consultation with traffic police
- Work is not being conducted during heavy traffic
- Work at a stretch is completed within a day (excavation, pipe laying & backfilling)
- Pipe trenches are not kept open unduly
- Road is not completely closed; work is conducted on edge; at least one line is kept open
- Road is closed; alternative route provided & public is informed, information board provided
- Pedestrian access to houses is not blocked due to pipe laying
- Spaces left in between trenches for access
- Wooden planks/metal sheets provided across trench for pedestrian
- No public/unauthorized entry observed in work site
- Children safety measures (barricades, security) in place at work sites in residential areas
- Prior public information provided about the work, schedule and disturbances
- Caution/warning board provided on site
- Guards with red flag provided during work at busy roads
- Workers using appropriate PPE (boots, masks, gloves, helmets, ear muffs etc)
- Working conditions at SUBPROJECTS are assessed by EHS expert and ensure that there is no risk
- Workers conducting or near heavy noise work is provided with ear muffs Contractor is following standard & safe construction practices
- Deep excavation is conducted with land slip/protection measures First aid facilities are available on site and workers informed Drinking water provided at the site
- Toilet facility provided at the site
- Separate toilet facility is provided for women workers camps are maintained cleanly
- Adequate toilet & bath facilities provided
- Contractor employed local workers as far as possible Workers camp set up with the permission of PIU Adequate housing provided
- Sufficient water provided for drinking/washing/bath
- No noisy work is conducted in the nights
- Local people informed of noisy work o blasting activity conducted
- Pneumatic drills or other equipment creating vibration is not used near old/risky buildings

Appendix 20: Sample Grievance Registration Form

(To be available in Telugu and English)

The Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town		
		Project:		
Contact information/personal details				
Name		Gender	Age	
Home address				
Place				
Phone no.				
E-mail				
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:				
If included as attachment/note/letter, please tick here:				
How do you want us to reach you for feedback or update on your comment/grievance?				

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed: Yes No	
Means of disclosure:	

Appendix 21: Sample Site Specific Environmental Management Plan

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
Pre-Construction							
<p>Necessary Statutory approvals (Environment Clearance, Consent to Establish, etc.) for environment management, building construction, water supply and fire safety, etc.</p> <p>Contractor Preparatory Works</p>	<p>Necessary planning and coordination with concerned authorities. Prior notice to and consultation with concerned authority, public to be affected so as to ensure that work does not get affected.</p> <p>The Contractor will complete the following activities no later than 30 days upon issuance of Notice to Proceed</p> <ol style="list-style-type: none"> 1.) Submit appointment letter and resume of the Contractor's Environmental Officer (EO) to APIIC 2.) EO will engage PMSC-Environment Specialist and to a meeting to discuss in detail the EMP, seek clarification and recommend corresponding revisions if necessary 3.) EO will request PMSC-ES copy of monthly monitoring formats and establish deadlines for submission. 4.) EO will submit for PMSC-ES approval an 	<p>Documents like permits, licenses and its conditions</p>	<p>All project site</p>	<p>Contractor</p>	<p>Document Checking</p>	<p>Contractor / APIIC / PMU/PMSC</p>	<p>Contractor to Monitor regularly APIICZ to inspect monthly PMSC/ PMU to inspect quarterly</p>

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	<p>action plan to secure all permits and approvals needed to be secured during construction stage of Phase-II development. This will include but not limited to: i) consent to establish; (ii) Agreement with TSDf for transport, storage and disposal of hazardous waste (e.g. sludge, toxic untreated wastewater) if any, iii) temporary storage location, iv) water use, v) emission and fitness compliance of all vehicles to be used for construction and transport, vi) emission compliance of DG sets to be used for construction, vii) permission for groundwater extraction from CGWB</p> <p>The contractor will prepare a site-specific environmental management plan considering the IEE herewith, EIA and EMP prepared for environmental clearance and conditions received therein.</p>						
Construction Stage Site Specific Environmental Management Plan							
Exhaust emissions from vehicles, dust emissions, Fugitive	To reduce impacts from exhausts, emission control norms will be	Air quality parameters like	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
<p>dust during material unloading, Dust suspension during site preparation, construction and trenching Emissions from DGsets</p>	<p>enforced/adhered. All the vehicles and construction machinery will be periodically checked to ensure compliance to the emission standards Construction equipment and transport vehicles will be periodically washed to remove accumulated dirt Providing adequately sized yard for storage of construction materials, equipment tools, earthmoving equipment, etc. Provide enclosures on all sides of construction site Movement of material will be mostly during non- peak hours. On-site vehicle speeds will be controlled to reduce excessive dust suspension in air and dispersion by traffic Water sprinkling will be carried as required, to suppress fugitive dust in the project site Environmental awareness program will be provided to the personnel involved in developmental works.</p>	<p>particulate matter, oxides of nitrogen, oxides of sulphur</p>					<p>monthly PMSC/ PMU to inspect quarterly</p>

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	Dust generating activities to be avoided in conditions of high wind (particularly during summer season) and covers to be provided for loose construction material at construction site. Vehicle speed to be restricted to 20 Km/hr at site to minimize potential for dust generation in the surroundings. Trucks / dumpers to be covered by tarpaulin sheets during off site transportation of construction materials and spoil. Surfaced roads to be cleaned and un-surfaced roads will be stabilized to reduce offsite transport of soils and avoid dust generation.						
Noise/Vibration from following activities Vehicles transporting construction material Diesel run engines of Construction machinery	Noise levels shall be maintained below threshold levels stipulated by Central Pollution Control Board (CPCB) time to time Procurement of machinery/construction equipment in accordance with specifications conforming to source noise levels less than 75 dB (A) Well-maintained construction equipment,	Day time and night time Noise level	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	<p>which meets the regulatory standards for source noise levels, shall be used</p> <p>Any equipment emitting high noise, wherever possible, shall be oriented so that the noise is directed away from sensitive receptors</p> <p>Noise attenuation will be practiced for noisy equipment by employing suitable techniques such as acoustic controls, insulation and vibration dampers</p> <p>High noise generating activities such as piling and drilling shall be scheduled in day time</p> <p>Personnel exposed to noise levels beyond threshold limits shall be provided with PPE.</p>						
Impact to natural flow of runoff due to blockage and change of drainage course	<p>Natural drain is observed as seen on the Topographical maps. Adequate storm water drainage system shall be provided. Drainage system will be provided at construction yard. Measures will be taken to prevent silting of natural drainage due to</p>	<p>Water logging and items which can cause flooding like boundary wall, blockage of drains</p>	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	runoff from construction areas						
Loss of vegetation and strain on existing infrastructure.	Commencement of greenbelt development during construction phase especially in terms of nursery development and identification of indigenous species Temporary workers camp with self-sufficient infrastructure facilities.	Number of trees Water supply, power supply to labour camps.	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly
Traffic addition	Regularization of truck movement	Public concerns due to additional traffic movement of construction vehicles	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly
Impacts due to disposal of solid waste on ground	Construction waste shall be used within project site for filling of low-lying areas. Excavated soil shall be stockpiled in a corner of the site in bunded area to avoid run off with storm water. General refuse generated on-site shall be collected in waste skips and separated from construction waste. Local authorized waste recycler shall be employed to remove general refuse from the site, separately	Solid waste generated volume of soil excavated; area of land excavated	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	from construction waste and hazardous wastes Recyclable wastes will be disposed through APPCB approved vendors Burning of refuse at construction sites shall be prohibited.						
Fire accidents due to hazardous material handling Health Issues	Adequate safety measures as per OSHA standards will be adopted Construction site will be secured by fencing with controlled/limited entry points. Hazardous materials such as lubricants, paints, compressed gases, and varnishes etc., will be stored as per the prescribed/approved safety norms. Construction site will be secured by fencing with controlled/ limited entry points Medical facilities including first aid will be made available for attending to injured workers. Handling and storage as per statutory guidelines. Positive isolation procedures will be adhered Handling and storage as	Number of accidents, Number of near miss reported	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters to be Monitored	Location	Responsible for mitigation	Monitoring Method	Responsible for Monitoring	Frequency of Monitoring
	per MSIHC rules, MoEF guidelines with Fire protection system. Hazardous wastes, if any, shall be disposed through APPCB/CPCB approved vendors						
Impacts to the surface waterbody	Water Requirement during the construction will be met through local municipal bodies and groundwater. Care should be taken to prevent the contaminated runoff from the construction site to the nearby natural streams, if any. Optimized utilization of the water Wastewater and sewage generated shall be treated at STP or septic tank with soak pits	Physical, chemical and biological parameters	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly
R&R Loss of land	No R&R APIIC has obtained the possession of land from Relevant authorities. The phase -II land use of site is mostly barren and partly open scrub and bushes.	Encumbrance free certificate	All work site	Contractor	Site inspection and documents checking	Contractor / APIIC / PMU/PMSC	Contractor to Monitor regularly APIIC to inspect monthly PMSC/ PMU to inspect quarterly

Appendix 22: Confirmation and Acceptance of Hazardous waste by Coastal Waste Management Project (TSDF)



Coastal Waste Management Project, Unit - II
 (A Division of Mumbai Waste Management Ltd.)
 (A Subsidiary of Ramky Enviro Engineers Ltd.)
 Govt. veterinary Polytechnic College Opposite Road,
 Raviguntapalli Village, Rapur Mandal,
 SPSR Nellore Dist. - 524408, A. P., India
 Phone: +91 8332042024
 E: cwmp2@ramky.com

REEL/CWMP-Unit II/ APIIC/ Letter1/070319

Dated: 07-03-2019

To
 The Chief Engineer - South
 APIIC Ltd,
 Vijayawada.

Dear Sir,

Subject: Utilization of TSDF, Raviguntapalli for the Hazardous/Bio Medical/E-Waste to be generated from the proposed Industrial Park Phase-I at Srikalahasthi Node" being developed by APIIC

Ref: Your Note: Lr: CE(S)/APIIC/VCIC/North & South Node/ Consultancy Services/2018-19 Dt: 18.02.2019

This has reference to above letter regarding enquiry from your office on utilisation of *TSDF, Raviguntapalli for the Hazardous/Bio Medical/E-Waste to be generated from the proposed Industrial Park Phase-I at Srikalahasthi Node*" being developed by APIIC.

In this regard we M/S Coastal Waste Management Unit -2 , Nellore unit (A Division of Mumbai Waste Management Limited) would like to submit that we have a Common Treatment , Storage and Disposal facility with consent and authorisation for hazardous waste from Andhra Pradesh Pollution Control Board. We also have another TSDF with name of Coastal Waste Management Unit -1 at Vishakhapatnam. Both units have sufficient capacities to cater the demands of all hazardous waste generated in the State of AP. These two facilities were developed with support of AP Government considering the growth of industries in the state of AP.

Both the facilities (Nellore and Vizag) have all the necessary statutory clearances as applicable. The permissions include

1. Environmental Clearance from Ministry of Environment and Forests Government of India setting up an Integrated Waste management Facility consisting of Secured land fill, Incinerator Facility, Waste to energy Plant, Disposal of Bio-medical waste and E-waste Recycling Unit in a Phased manner.
2. Consent For Establishment (CFE) of this facility at Nellore for establishing an Integrated Common Hazardous Waste Treatment, Storage and Disposal and Recycling facility with Secured Landfill, Recycling of Spent Solvents, E Waste, Used Oil, Used Lead Batteries, Alternative Fuel and Raw Material, Bio Medical Waste in Phase-I, Waste Plastic Recycling, Waste Plastic Recycling, Incineration in Phase-II, Renewable Energy, Waste to Energy in Phase-III.



3. No objection Certificate (NOC) for this project from Panchayat Secretary, Bojjanpalli Village, Rapur (M), SPSR Nellore District
4. Factory License from the Office of Inspector of Factories, Nellore – Circle, S.P.S.R Nellore.
5. Approval of landfill Design from the Department of Civil Engineering, Indian Institute of Technology, Madras and from Department Civil Engineering, Sri Venkateswara University, Tirupati had inspected each layout of the Hazardous Waste Landfill.
6. Consent to Operate (CTO) was issued to M/s Coastal Waste Management Project (Unit-wise Consent no: APPCB/UH:IV/HWM/CFO/CWMP-NLR/2018 dated 10.10.2018. We have the below mentioned capacities authorised by APPCB (For further details, our CFO attached).

S No	Type of Waste	Units	Capacity Authorized per Day
1	Hazardous Waste	Secured Landfill	548 MT
2	Hazardous Waste	Stabilization	383 MT
3	Hazardous Waste	Alternate fuel and Raw Material	55 MT
4	Recyclable Waste	E Waste	82 MT

We are operational from January 2019, and the waste quantities being received currently are negligible. We confirm that we have sufficient capacities to accommodate all hazardous waste not only limited to the proposal of 50-75 MT /day of estimated waste generation from the proposed Industrial Park at Srikalahasti Node at Routhusurmala but also of all the other industrial estates coming up in the state of AP in future .

We hereby confirm our acceptance to accommodate the hazardous wastes from various industrial units of all sectors as mentioned in the IP . Any further documents required may kindly be sought for

Thanking you.

Yours faithfully,

For Coastal Waste Management Project Unit-2 (A Div. of MWML)

Authorised Signatory
(Madhu Babu V B)

Appendix 23: Health and Safety Plan VCICDP Project 2

SOP-Health and Safety Plan for COVID19 Pandemic

Document Stage: Final

June 2020

Loan 3430-IND and Grant 0495: Visakhapatnam-Chennai Industrial Corridor Development Program, Project 1

Visakhapatnam-Chennai Industrial Corridor Development Program, Tranche 2



Prepared by Government of Andhra Pradesh for the Asian Development Bank.

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12	Training
13	Emergency contact

1 INTRODUCTION

- This document is intended to supplement formal H&S policies, procedures and plans that the contractor has in place for its employees and staff working on VCICDP projects under loan 3430-IND and Grant 0495 and Visakhapatnam-Chennai Industrial Corridor Development Program Tranche 2. Hence, this document is not intended to replace any formalized procedures currently in place for the Contractor. Where this guideline does not meet or exceed the standards put forth by the Contractor, the Contractor shall abide by the most stringent procedure available.
- This approved project specific Health and Safety Plan (H&SP) shall be modified to require that the COVID-19 Officer (supervised by the contractor's environmental and health and safety officer) at the Contractor's worksite (appointed by Contractor and agreed by PIU) submit a written daily report to the Client's Representative (PIU Head). The COVID-19 Officer shall certify that the Contractor and all subcontractors are in full compliance with these guidelines.
- The COVID-19 officer should be present on site at all times.
- Any issue of non-compliance with these guidelines shall be a basis for the suspension of work. The Contractor will be required to submit a corrective action plan (on the next day or immediately as per the nature of issue) detailing each issue of non-conformance and a plan to rectify the issue(s). The Contractor will not be allowed to resume work until the plan is approved by the Client (PIU). Any additional issues of non-conformance may be subject to action against the Contractor's as health & safety/safeguard clauses of the contract.
- Construction sites operating during the Covid-19 pandemic need to ensure they are protecting their WORKFORCE and minimising the risk of spread of infection.
- This guidance is intended to introduce consistent measures on sites of all sizes in line with the Government's recommendations on social distancing.
- These are exceptional circumstances and the industry must remain abreast of and comply with the latest Government advice on COVID-19 at all times.
- The health and safety requirements of any construction activity must also not be compromised at this time. If an activity cannot be undertaken safely due to a lack of suitably qualified personnel being available or social distancing being implemented, it should not take place.
- It is to be noted that emergency services are also under great pressure and may not be in a position to respond as quickly as usual.
- Sites should remind the workforce at every opportunity of the Worksite Procedures which are aimed at protecting them, their colleagues, their families and the Andhra Pradesh population.

If a worksite is not consistently implementing the measures in this document, it may be required to shut down.

2 PRINCIPLES OF WORKER PROTECTION

- Consistently practice social distancing
- Cover coughs and sneezes
- Maintain hand hygiene
- Clean surfaces frequently

3 MAXIMUM PRECAUTION FOR PERSONS/LABOURERS REPORTING TO WORK

- IF SICK, STAY HOME!
- IF SICK, GO HOME!
- IF SOMEONE SICK, SEND THEM HOME!

Contractor to provide face masks (of the type approved by Government for use to protect persons from COVID-19) to all persons working in or visiting the worksite. This along with procedures set out in this document is for maximum precaution to protect all persons/labourers at all times.

4 COVID-19 TYPICAL SYMPTOMS

- Fever
- Cough
- Shortness of Breath
- Sore Throat

All persons at the worksite should have their temperature screened by COVID-19 officer with Infrared Thermometer (handheld non-contact).

5 SELF-ATTESTATION BY PERSONS/LABOUR PRIOR TO WORK

Prior to starting a work (on daily basis), each labour /worker will self-attest to the supervisor:

- no signs of COVID-19 symptoms within the past 24 hours.
- No contact with an individual diagnosed with COVID-19. (contact means living with a positive person, being within 6 ft of positive person OR sharing things of positive person)
- Not undergone quarantine or isolation (in case of any labourer /worker who has been quarantined or isolated previously, the engagement shall be only after obtaining the requisite clearance)

The engagement of workers falling in the high-risk category such as workers over the age of 55 years, with underlying medical conditions or health issues, etc. should be done only after obtaining the requisite clearance from trained and registered medical practitioners.

The self-attestation would be verified in collaboration with trained and registered medical practitioners deployed at site through discussions with laborers /workers and/or preliminary checks such as temperature checks, etc. prior to their engagement at site.

In addition, the Contractor shall mandatorily follow all medical test requirements for the workers prior to their engagement and/or mobilization at site as per the guidelines issued by the Central and State government agencies and WHO from time to time.

Persons/Labourers showing COVID-19 symptoms or not providing self-attestation shall be directed to leave the work site and report to the fever clinic/quarantine centre immediately. Labour not to return to the work site until cleared by fever clinic/quarantine centre.

6 GENERAL DIRECTION

- No handshake, Only Namaste
- Non-essential physical work that requires close contact between workers should not be carried out
- Work requiring physical contact should not be carried out
- Plan all other work to minimise contact between workers
- Wash hands often (every 1-2 hrs or frequently as possible) with soap for at least 20 seconds
- Use hand sanitizer
- No person should enter the work site other than the authorized persons mentioned by supervisor during start of work
- All must implement social distancing by maintaining a minimum distance of 6-feet from others at all times to eliminate the potential of cross contamination.
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing i.e., 6 ft from others.
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- All individual work group meetings/ talks should follow social distancing
- At each job briefing/toolbox talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
- Each worksite should have laminated COVID-19 safety guidelines and handwashing instructions

- All restroom/toilet facilities should be cleaned (min twice a day), and handwashing facility must be provided with soap, hand sanitizer and paper towels
- All surfaces should be regularly cleaned, including mobiles, tabletops /surfaces, door handles, laptops, records, etc.
- All common areas and meeting areas are to be regularly cleaned (min twice a day) and disinfected at least twice a day
- All persons to maintain their own water bottle and should not be shared.
- To avoid external contamination, it is recommended everyone bring food from home
- Please maintain Social Distancing separation during breaks and lunch.
- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands, if no tissue is available then cough /sneeze into your upper sleeves or elbow. Do not cough or sneeze into your hands.
- Clean your hands after coughing or sneezing thoroughly by using soap and water (minimum for 20 seconds). If soap and water are not available, please use a hand sanitizer. The Contractor shall ensure adequate quantities of sanitizer and soap are made available at all locations including site offices, meeting rooms, corridors, washrooms /toilets, etc. as appropriate.
- Avoid touching eyes, nose, and mouth with your hands
- To avoid sharing germs, please clean up after Yourself. DO NOT make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!
- Work schedules are adjusted to provide time for proper cleaning and disinfecting as required.

7 WORK-SITE PREVENTION PRACTICES

- At the start of each shift, confirm with all employees that they are healthy and inform all workers of reusable and disposable PPE.
- Outside person(s) should be strictly prohibited at worksite
- All construction workers will be required to wear cut-resistant gloves or the equivalent.
- Use of eye protection (reusable safety goggles/face shields) is recommended. The supply of eye protection equipment to the workers is considered as a standard part of PPE during construction works.

- In work conditions where required social distancing is impossible to achieve, such employees shall be supplied with standard face mask, gloves, and eye protection.
- All employees shall drive to work site as per the prevailing guidelines of the Government in a single occupant vehicle. Staff shall not ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant (with 1% sodium hypochlorite solution daily) prior to entry. Adequate quantity of the disinfectant shall be provided by the Contractor at all such site-specific locations.
- Workers should maintain separation of 6' from each other.
- Multi person activities will be limited where feasible (two persons lifting activities)
- Gathering places on the site such as sheds and/or break areas will be eliminated, and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person of the worksite and ensure proper COVID-19 sanitation processes. Increase cleaning/disinfection visits to at least 2 times a day. Cleaning person(s) to be provided with gloves, gown and face mask for each cycle of cleaning. The Contractor shall make available adequate supply of PPE and chemicals while the threat of COVID-19 continues.
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to desks, laptops and vehicles
- All employees to maintaining good health by getting adequate sleep; eating a balanced, healthy diet, avoid alcohol; and consume plenty of fluids.
- Continuation of works in construction project with workers available on site and no workers to be brought in from outside
- The site offices shall have adequate ventilation. The air conditioning or ventilation systems installed at the site offices would have high-efficiency air filters to reduce the risk of infection. The frequency of air changes may be increased for areas where close personal proximity cannot be fully prevented such as control rooms, elevators, waiting rooms, etc.
- The Contractor shall carry out contactless temperature checks for the workers prior to site entrance, during working hours and after site works to identify persons showing signs of being unwell with the COVID-19 symptoms

8 WASHING FACILITY

- All worksites should have access to toilet and hand washing facility.
- Providing hand cleaning facilities at entrances and exits. This should be soap and water wherever possible or hand sanitiser if water is not available
- Washing facility with hot water, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees
- All onsite workers must help to maintain and keep stations clean
- If a worker notices soap or towels are running low or out, immediately notify supervisors. Proactively supervisor should make sure shortage situation never occurs.
- Garbage bins will be placed next to the hand wash facility for discarding of used tissues/towels with regular removal and disposal facility (end of each day)

9 CLEANING PROCEDURES

Increase cleaning/disinfection visits to at least 2 times a day. Cleaning person(s) to be provided with gloves, gown and face mask for each cycle of cleaning.

Each worksite should have enhanced cleaning and disinfection procedures that are posted and shared including sheds, gates, equipment, vehicles, etc. and shall be posted at all entry points to the sites, and throughout the project site. These include common areas and high touch points like

- Taps and washing facilities
- Toilet flush and seats
- Door handles and push plates
- Handrails on staircases and corridors
- Lift and hoist controls
- Machinery and equipment controls
- Food preparation and eating surfaces
- Telephone equipment / mobiles
- Keyboards, photocopiers and other office equipment

Re-usable PPE should be thoroughly cleaned after use and not shared between workers

10 LABOUR CAMP

Contractor shall follow a zero-tolerance policy on wearing of masks.

Masks (homemade can be thought of) to be provided to all the persons/labourers for use at the camp site as well as at the worksite. Increase cleaning/disinfection visits to at least 2 times a day. Cleaning person(s) to be provided with disposable gloves, gown and face mask for each cycle of cleaning.

10.1 Toilet Facility

- Restrict the number of people using toilet facility at any one time e.g. appoint one welfare attendant among the labours.
- Wash hands before and after using the facilities
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.

10.2 Eating/snacks Arrangements

- With eateries having been closed (restricted) across Andhra Pradesh, providing permanent (till society is safe from COVID-19) on-camp/off-camp cook/helpers can be implemented. Make sure that the “Guidelines for food handling, preparation and distribution during COVID-19” and its regular updates are being followed.
- Whilst there is a requirement for construction camps to provide a means of heating food and making hot water, these are exceptional circumstances and where it is not possible to introduce a means of keeping equipment clean between use, etc. must be removed from use.
- Contractor to arrange all daily need items and grocery at site itself and no worker is allowed to go to shops for daily need items.
- Dedicated eating areas should be identified on camp to reduce food waste and contamination
- Break times should be staggered to reduce congestion and contact at all times
- Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area
- Workers should sit 2 metres “6 feet” apart from each other whilst eating and avoid all contact
- Where catering is provided on camp, it should provide pre-prepared and wrapped food only

- o Payments should be taken by contactless options wherever possible
- o Crockery, eating utensils, cups etc. should be avoided wherever possible
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced
- Tables should be cleaned between each use
- All rubbish should be put straight in the bin and not left for someone else to clear up; only covered pedal operated bins should be used and the bins should be cleared and cleaned regularly, with strict adherence to safety protocols for disposal and hygiene maintenance (including proper PPE's such as gloves, mask and apron worn by the waste handler/cleaner and disposal at a designated place);
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, etc.

10.3 Changing Facilities, Showers and Drying Areas

- Introduce staggered start and finish times to reduce congestion and contact at all times
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day
- Consider increasing the number or size of facilities available on camp if possible
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of two metres
- Provide suitable and sufficient garbage bins in these areas with regular removal and disposal.
- Visitor log should be strictly maintained that the labour camp.

COVID-19 officer will ensure compliance with prevention issues at the labour camp(s).

11 UPDATES ON COVID-19

The Contractor shall be in touch with the Department of Health & Family Welfare and Labour Department to identify any potential worksite exposures relating to COVID-19, including:

- Strictly follow the guidelines issues by Ministry of health and OSHA
- Other workers, vendors, inspectors, or visitors to the worksite with close contact to the individual
- Labour Camps / Work areas such as designated workstations or rooms/sheds

- Work tools and equipment
- Common areas such as break rooms, tables and sanitary facilities

Also refer the following websites from time to time for regular updates.

<https://www.mohfw.gov.in/>

<http://hmfw.ap.gov.in/>

This document can be updated from time to time based on the advisories or directions of the Government.

12 TRAINING

- RPMU/PIU to ensure all workers get training on above requirements before start of any construction activity
- During construction period frequent visual and verbal reminders to workers can improve compliance with hand hygiene practices and thus reduce rates of infection. Handwashing posters should also be displayed at work site and labour camps

13 EMERGENCY CONTACT

- Provide emergency contact number(s) at work site and labour camp for reporting COVID-19 symptoms

Ensure all staff and personal use the AarogyaSetu App, recommended by GOI for tracking COVID-19 patients.

Appendix 24: Proposed Project Zoning

1.Planning Concept/Design Basis

Planning for the proposed developments is carried out based on the concept of zoning. Zoning of area for industrial use, utilities, entrance and exit, access roads, other support services, etc. is done based on the following.

Sustainable Development: In the project site there are many constraints are noticed such as Irrigation canal, HT corridors and natural streams. Considering, all the constrains straight roads and maximum square plots are planned. Residential land use with green buffer is proposed near to existing settlements adjacent to project boundary. Multiple open spaces are provided to serve as lung space in the cluster. The planning of industrial clusters is done to have maximum flexibility which is required to adapt to any business scenario. Master plan is flexible to allow for any amalgamation in plotting (size-wise, orientation-wise, etc.) from smaller to larger and visa-versa based on the requirements.

Synergy with land use: In order to reduce the impact on the surrounding settlements, compatible activities are proposed around it. On the southern boundary of the project site stream is passing, based on the guidelines no activities are proposed in the vicinity of the streams and also adequate buffers are left for the existing streams, irrigation canals & HT line passing through the site. The site has undulating terrain sloping towards the south. These topographical aspects were considered for water, wastewater and storm water management. The integrated master plan is prepared by considering all the constrains noticed inside the project site.

Guidelines and local Bylaws: Planning principals and local bylaws are referred for master planning the Industrial Cluster. Adequate buffers are left for existing surrounding features like canal, settlement, HT line, etc. as per GoAP, G.O.Ms.No.67, 168, 275. Green buffer are left along the project boundary and also in between different activities such as canal, stream water body and also constrains noticed within the cluster. The necessary buffer is provided by considering all stringent provisions of above G.O.

Traffic Management: The already existing roads were taken into consideration while planning and proposing the internal road network. Alternate entry/ exit are provided for emergency evacuation. As well as some portion of existing roads is integrated and existing ingress & outgress from this project is also well connected to the proposed road network.

Wind Direction: The predominant wind direction is Southwest/South, which was taken into consideration during the zoning of industries.

The Planning parameters are shown in Figure below.

Figure 1: Planning Parameters



Based on the zoning concept, a land use plan is prepared incorporating the current plot divisions and possible future sub-divisions. The industrial plots, common utilities,

infrastructure services are conveniently located based on the site boundary, contour and other factors. In the land designated for industrial activities, industrial clusters are preferred to individual industries which results in synergy and co-existence and optimal sharing of industry related facilities.

2. Industrial Zoning

As suggested by MoEF&CC, no red category industry will be established within 300 m of settlement inside and outside the project boundary and zoning plan of proposed industries is given in Error! Reference source not found.. Arrangement of Green buffer and no pollution industry around the settlements representation was given in Figure below.

Figure 2: Zoning Plan of Proposed Industries

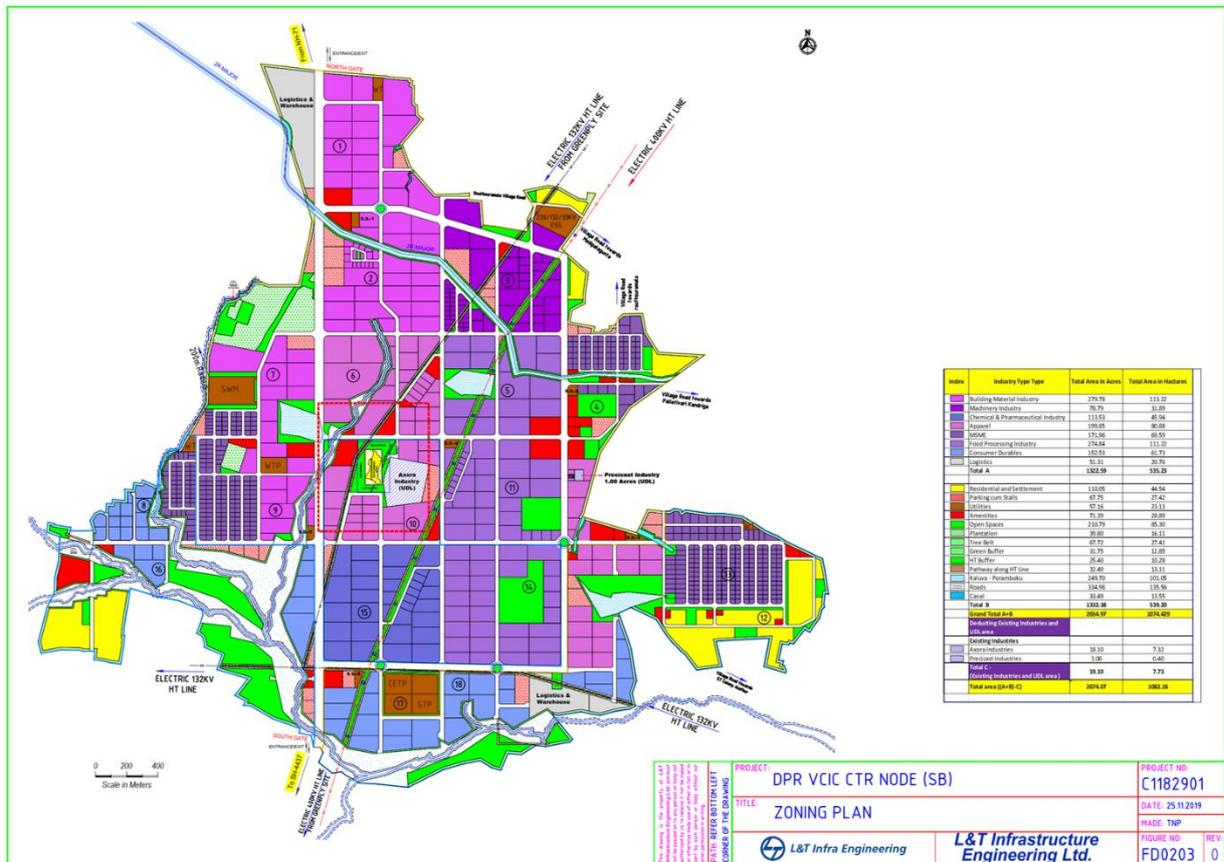
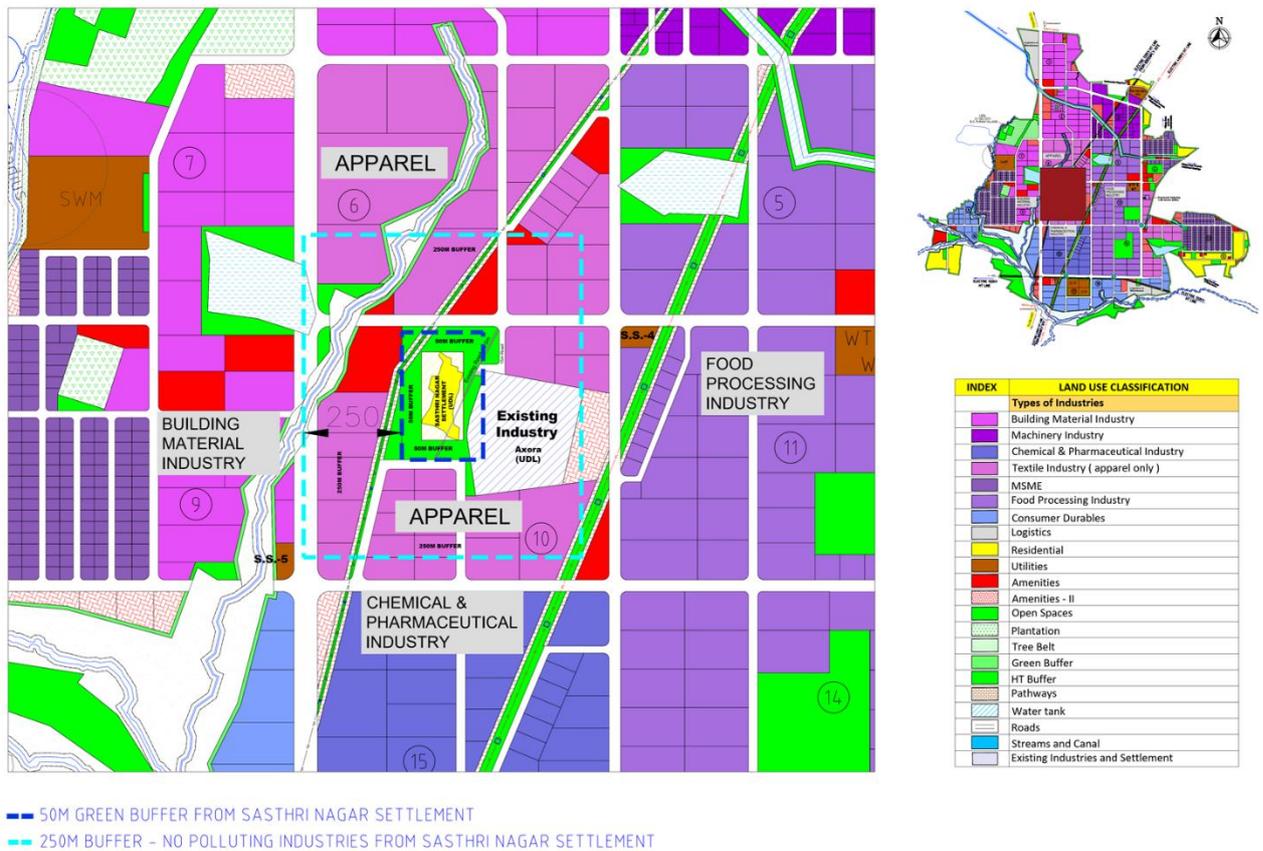


Figure 3: Zoning Plan with buffer around the Settlements and No Polluting Industry around the settlements



Appendix 25: EC Specific Conditions and Compliance

Environmental Clearance from MoEF&CC for Development of Industrial Park (Phase-I) at Srikalahasthi Node situated in villages Routhusurumala, Gowdamala, Kothatpalem, Alathuru and B.S. Puram, Mandals Thottambedu and B.N. Kandriga, District Chittoor, Andhra Pradesh by M/s Andhra Pradesh Industrial Infrastructure Corporation Ltd., Routhusurumala, Gowdamala, Kothapalem, Alathuru and B.S.Puram revenue villages in Thottambedu and B. N. Kandriga Mandals of Chittoor District, Andhra Pradesh were obtained through vide letter no. File No.: 21-76/2018-IA.III [Proposal No. IA/AP/NCP/80694/2018] dated November 11, 2020 (EC letter were provided as **Appendix 2**)

The following are the specific conditions and compliances

S. No.	A. SPECIFIC CONDITIONS	Compliance
(i)	To achieve the Zero Liquid Discharge, wastewater generated from different industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses.	Zero Liquid Discharge (ZLD) wastewater treatment plant is planned for treatment of wastewater. The wastewater generated at Industrial Park will be collected and treated in Common Effluent Treatment Plant (CETP) whereas sewage generated from residential areas will be treated in STP. It is proposed to develop a CETP of ultimate capacity of 5.11 MLD on a Modular basis (1.2 MLD initially) and STP of 1.2 MLD under wastewater treatment system considering inflows from different industrial clusters in the park. CETP development was proposed under the subproject and IEE for CETP was prepared and included as a separate contract package under VCICDP.
(ii)	The quantity of freshwater usage, water recycling and rainwater harvesting shall be measured/recorded to ensure the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six Monthly Monitoring reports.	Shall be complied and adhered during the implementation stage
(iii)	All the recommendation of the EMP shall be complied with in letter and spirit.	Shall be complied and adhered during the implementation stage
(iv)	The member units shall provide storage tanks for storage of effluent for monitoring the characteristics of effluent before taking into the CETP for further treatment.	Shall be complied and adhered during the implementation stage and specific guidelines shall be developed for compiling the same
(v)	Proper meters with recording facilities shall be provided to monitor the effluent quality and quantity sent from member industries to CETP and from CETP to the final disposal/re-use on a continuous basis.	
(vi)	Ambient noise levels shall conform to the prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during development/ construction phase. Adequate measures shall be made to	

S. No.	A. SPECIFIC CONDITIONS	Compliance
	reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/SPCB.	
(vii)	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September 1999 and amended as on 27th August 2003 and 25 th January, 2016.	
(viii)	Rainwater harvesting for roof run-off and surface run-off, as plan submitted shall be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The bore well for rainwater recharging shall be kept at least 4 m above the highest ground water table.	Shall be complied and adhered during the implementation stage
(ix)	As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30 th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.	Shall be complied and adhered during the implementation stage

Appendix 26: APIIC Note on CETP for Tranche-2



Andhra Pradesh Industrial Infrastructure Corporation Ltd., (Govt. of Andhra Pradesh Undertaking)

Note on CETP under Tranche -II

Under the “National Industrial Corridor Development Programme” Government of Andhra Pradesh has taken up the Visakhapatnam-Chennai Industrial Corridor Development Program (VCIC-DP), with financial assistance from Asian Development bank (ADB) to develop State of the Art Infrastructure in three Industrial Clusters i.e. Nakkapalli and Rambilli in Visakhapatnam and Srikalahasthi – Yerpedu in Chittoor Node.

The Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC) is one of the Project Implementing Units. Under Tranche-II APIIC is implementing the projects including Infrastructure development sub projects (i.e. APIIC 06A, 08A, 09A and AMTZ-I) and 4 CETP sub-projects (i.e. APIIC 06B, 08B, 09B, 10).

The internal Infrastructure development sub-projects, i.e., APIIC/06A, APIIC/08A and APIIC/09A are undergoing tendering process in consultation with ADB and are essential for development of industrial clusters which can be monetized immediately. Further, the CETPs shall be required during the occupancy phase of these industrial clusters.

In light of above, it is proposed that, the CETPs will be taken up in Design Built Operate Finance and Transfer mode (DBFOT) post completion of the internal industrial infrastructure. It will be ensured that these CETP will be kept ready before the Industrial unit's starts their operations. Otherwise, Individual industries are advised to set up their own arrangements as per PCB Norms till CETP gets operated. Further, it is ensured that CETP's design will be in line with statutory approvals from MoEF & CC, Pollution Control Board, and other regulatory authorities.

Regarding maintenance of Green belt initially it will be maintained by raw water. Once CETP is commissioned, the recycle water shall be used within the industrial park.


Engineer-In-Chief
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