



ANDHRA PRADESH INDUSTRIAL INFRASTRUCTURE CORPORATION LIMITED

Environmental Clearance for the Proposed Mega Industrial Park at Kopparchy, YSR Kadapa District, Andhra Pradesh



Executive Summary

March - 2017

Prepared By



HUBERT ENVIRO CARE SYSTEMS (P) LTD,
CHENNAI

EXECUTIVE SUMMARY
For
PROPOSED MEGA INDUSTRIAL PARK
At KOPPARTHY
6553.04 ACRES

AT

VILLAGE	MANDAL	DISTRICT	STATE
KOPPARTHY (3662.97ACRES)	CHINTAKOMMA DINNE	YSR KADAPA	ANDHRA PRADESH
TADIGOTAL (797.14 ACRES)			
YADAVAPURAM (993.79 ACRES)	VALLUR		
TOLLAGANGANAPALLI (212.51 ACRES)			
AMBAVARAM (704.70 ACRES)			
RAMPATHADU (181.93 ACRES)	PENDLIMARRI		

BY



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Revision - 0



1.1 Introduction

APIIC proposes to develop a Mega Industrial Park with a total area of 6553.04 Acres (2651.92 Ha) at Kopparthu, Tadigotal, Yadavapuram, Thollaganganapalli, Ambavaram & Rampathadu Villages, covering Chintakomma Dinne, Vallur & Pendlimarri Mandals, YSR Kadapa District, Andhra Pradesh State. There are totally 219 units proposed for the proposed site. The site is located at 6 Km from Kadapa and 1.26 Km from Krishnapuram. The site falls in 57H/9 of SOI Topo sheet and spatial location of the site is 12 48' 3.22" N & 79 39' 35.22" E (Centre Coordinates).

1.2 Project Description

1.2.1 Land Acquisition

The area for Kopparthu MIP is already in possession of APIIC. The land is devoid of any settlements and as such there will be no Land Acquisition and Resettlement or Rehabilitation for development of proposed IP. APIIC had acquired the land for development of MIP from both Government and private owners. The village wise land extent is given in **Table - 1**.

Table - 1 Village wise land extent

Sl.No.	Name of the Village & Mandal	Possession Taken From Revenue Authorities (in Acres)			
		Govt.,	DKT	Patta	Total
1	Kopparthu (V), CK Dinne (M)	544.61	2771.48	346.88	3662.97
2	Tadigotla (V), CK Dinne (M)	392.59	366.17	38.38	797.14
3	Yadavapuram (V), Vallur (M)	441.95	365.15	186.69	993.79
4	Tholagangana Palli (V), Vallur (M)	58.82	118.76	34.93	212.51
5	Ambavaram (V), Pendlimarri (M)	69.11	477.63	157.96	704.7
6	Rampathadu (V), Pendlimarri (M)	74.11	53.95	53.87	181.93
	TOTAL	1581.19	4153.14	818.71	6553.04

1.2.2 Proposed Master Plan

The proposed industries within MIP are classified as Red Orange and green category. The area breakup of allotment is given in **Table- 2**. The individual plot area to be allotted for each industry is given in the Master Plan. The type of industries proposed is given in **Table- 3**.

**Table- 2 Area breakup for proposed Mega Industrial Park**

S. No.	Proposal	Area (Acres)	Area (%)
1	Total land area	6553.04	100
2	Plotted Area	2973.77	45.38
3	Common Facilities	203.36	3.10
4	Commercial Area	56.15	0.86
5	Tanks	216.93	3.31
6	Roads	897.76	13.70
7	Open Space	694.62	10.60
8	Green belt	1510.45	23.05

Table- 3 Type of Industries Proposed

S.No	Industry type	Category as per EIA notification	Area Acres	App. No of units
1	Synthetic Organic chemicals (Pharma)	A	175	5
2	Paint Industry	B	175	5
3	Dyes and Intermediates	A	180	10
4	Petrochemical based processing	A	250	5
5	R and D units	-	100	10
6	Textile	-	75	5
7	Food processing	-	100	6
8	Soft drinks	-	90	6
9	Milk chilling and Dairy	-	115	10
10	Agro based units	-	125	15
11	Glass Manufacturing	-	130	2
12	Automobile parts	-	110	10
13	Electrical machinery parts	-	60	10
15	Garments	-	60	10
16	Gems and jewellery	-	115	20
17	Industrial carbon	-	70	5
18	Carbon Black	A	175	3



S.No	Industry type	Category as per EIA notification	Area Acres	App. No of units
19	Metallurgical Industries	B	170	10
20	Cement Manufacturing	B	110	2
21	Lead acid batteries	-	90	5
22	Steel rerolling	-	100	20
23	TSDF Facility	A	75	1
24	Waste oil/ drums processing units	-	50	5
25	Solvent recovery units	-	55	5
26	CETP	B	70	4
27	Industrial gases/ Isolated storage	B	95	5
28	Lubricating oils	-	53.77	25
	Total		2973.77	219

1.2.3 Water requirement

Water requirement for construction phase is proposed as 250 KLD and operation phase is 35150 KLD for industrial and domestic use. Fresh water requirement is 30515 KLD. Recycled water to be used for utilities is 4635 KLD. Water requirement for green belt is 21501 KLD which will be met from recycled water. Fresh Water requirement will be met from Adinimayapalli Reservoir located at 8.2 km away from proposed park.

1.2.4 Wastewater Treatment

It is proposed to provide CSTP s of 2 numbers each of capacity 200 KLD and 350 KLD to treat the sewage generated from the individual industries. The sewer line from industries to proposed CSTP is also to be provided. Treated sewage of 550 KLD and treated effluent of 21501 KLD will be used for green belt development

It is proposed to provide CETP of 4 numbers each of capacity 10000 KLD, 2000 KLD, 2500 KLD and 12000KLD to treat the effluent generated from the individual industries. Effluent pipeline from industries to CETP is also to be provided. Treated effluent will be used for utilities/ by the industries / green belt. Zero Liquid Discharge concept is proposed.

1.2.5 Storm Water drainage

Storm water drainage channel will be proposed along the main road and internal roads. Storm water manholes of 350 nos. 0.6m x 0.6 m, recharge pits – 1800 nos. of 1.2 m dia and 3.0 m depth are proposed along the storm water drain and the excess storm water will be connected to the existing tanks of total area 216.93 Acres at the site.



1.2.6 Solid Waste Management

Municipal Solid Waste generation during construction and operation phases are proposed in **Table- 4**. Population considered for construction phase is 600 Nos. and for operation phase is 7000 nos.

Table- 4 Municipal Solid Waste generation

Waste	Construction phase Quantity (kg/day)	Operation Phase Quantity (kg/day)	Collection Method	Disposal method
organic	135	1575	Bins	composting
STP sludge	nil	45	Bins	Composting
Inorganic	165	1925	Bins	Authorized vendors

- Waste generation calculated as per CPHEEO guidelines of 0.50 kg/capita /day.
- Organic waste generated will be 45 % of total solid waste and inorganic waste generated will be 55 %.
- Sludge to be generated from 350 KLD & 150 KLD STP = 45 Kg/day

Area proposed for waste management is around 5000Sq.m will be allotted for MSW processing.

Individual Industries will be insisted to dispose their hazardous waste generated to the common TSDF facility proposed at site. Till it is established, the individual industries will dispose to TSDF already existing at Visakhapatnam. The salt generated from the CETP (Evaporator) will be disposed in the same manner.

1.2.7 Power Requirement

The overall tentative power requirement for the proposed project will be approximately 369 MVA and the source of power is APEPDCL. Power requirement calculation is given in



Table- 5.

**Table- 5 Power requirement for Industries**

S.No	Industry type	Area Acres	App. No of units	Approx. Power requirement/ unit (kVA)	Power (MVA)
1	Synthetic Organic chemicals (Pharma)	175	5	1000	5
2	Paint Industry	175	5	1000	5
3	Dyes and Intermediates	180	10	1000	10
4	Petrochemical based processing	250	5	5000	25
5	R and D units	100	10	500	5
6	Textile	75	5	1000	5
7	Food processing	100	6	1000	6
8	Soft drinks	90	6	1000	6
9	Milk chilling and Dairy	115	10	1000	10
10	Agro based units	125	15	500	7.5
11	Glass Manufacturing	130	2	5000	10
12	Automobile parts	110	10	500	5
13	Electrical machinery parts	60	10	500	5
15	Garments	60	10	500	5
16	Gems and jewellery	115	20	500	10
17	Industrial carbon	70	5	1000	5
18	Carbon Black	175	3	5000	15
19	Metallurgical Industries	170	10	8000	80
20	Cement Manufacturing	110	2	5000	10
21	Lead acid batteries	90	5	2500	12.5
22	Steel reolling	100	20	4000	80

S.No	Industry type	Area Acres	App. No of units	Approx. Power requirement/ unit (kVA)	Power (MVA)
23	TSD Facility	75	1	1000	1
24	Waste oil/ drums processing units	50	5	250	1.25
25	Solvent recovery units	55	5	500	2.5
26	CETP	70	4	5000	20
27	Industrial gases/ Isolated storage	95	5	700	3.5
28	Lubricating oils	53.77	25	750	18.75
	Total	2973.77	219		369

1.2.8 Green Belt

An area of 1510.45 Acres (23.04%) is earmarked for green belt development. Apart from this open area of 694.62 Acres (10.59%) is also proposed for green belt. Hence the total area for green belt is 2205.07 Acres (33.65%). APIIC will also insist on providing green belt by individual industry units, so that more than 33% green belt will be developed within the park. Green belt also will be proposed on the median of roads and avenue plantation.

1.2.9 Project Cost

The total capital investment on the project is INR 1305.75 Crores.

The project will be implemented after obtaining Environmental Clearance and Consent for Establishment. The tentative schedule for development of Infrastructure will be 24 to 36 Months after obtaining Environmental Clearance and Consent for Establishment.

1.3 Description of Environment

The primary baseline data monitored covered three (3) months i.e., from September to November 2016, and secondary data was collected from Government and Semi-Government organisations. Ecologically sensitive areas like Ganganapalle Reserve Forest and Extension were found within 4 Km radius in the southern region of the project site and Tummuluru Reserve Forest and Extension were found in western region of the project site 9km, except these Pankolda Reserve Forest and Extension, Kolumulapalle Reserve Forest, Lankamalla Reserve Forest and Extension located within 15 Km radius from proposed project site.

1.3.1 Meteorological Conditions

- Daily maximum temperature during the study period is 34.8°C and the daily minimum temperature is 21.7°C were recorded in the months of September and November respectively
- Maximum and minimum relative humidity of 79% and 57% were recorded in the months of September to November respectively
- Maximum and minimum rainfall of 260.2 mm and 139.5 mm was recorded in the months of September and November respectively
- Total rainfall recorded during the study period is 183.9 mm
- Maximum and minimum Mean wind speed during the study period is 2.6 m/s and 1.9 m/s.
- Predominant wind direction is NE.

1.3.2 Ambient Air Environment

Eight monitoring locations were selected for monitoring of Ambient Air Quality within the study area. Maximum concentrations of PM₁₀, PM_{2.5}, SO₂, NO_x, CO, Pb, O₃, NH₃, C₆H₆, C₂₀H₁₂, As & Ni are well within the National Ambient Air Quality Standards for Industrial, Commercial and Residential areas at all monitoring locations during the study period.

1.3.3 Noise Quality

Eight monitoring locations were selected for monitoring of noise levels. The field observations during the study period indicate that the ambient noise levels slightly exceeded the prescribed standards for all noise zones as per the limits prescribed by MoEF&CC.

1.3.4 Water Quality

The prevailing status of water quality at 8 sampling locations for ground water and 4 sampling locations for surface water has been assessed during September – November 2016

Surface water

- Surface waters are slightly alkaline in nature, pH ranged between 8.04 and 8.13
- Electrical Conductivity (EC) ranged between 218 µS/cm and 344 µS/cm
- Total Dissolved Solids (TDS) ranged between 132 mg/l and 217 mg/l
- Biological Oxygen Demand (BOD) recorded maximum of 3.5 mg/l
- Chemical Oxygen Demand (COD) ranged between 2.0 mg/l and 7.4 mg/l
- Dissolved Oxygen (DO) ranged between 5.8 mg/l and 6.2 mg/l
- Total Hardness (as CaCO₃) ranged between 40 mg/l and 108 mg/l

Ground Water

- pH ranged between 7.73 and 8.32

- Electrical Conductivity (EC) varied between 1045 $\mu\text{S/cm}$ and 2234 $\mu\text{S/cm}$
- Total dissolved solids ranged between 643 mg/l and 1395 mg/l
- Total alkalinity (as CaCO_3) varied between 210 mg/l and 320 mg/l
- Total hardness (as CaCO_3) ranged between 195 mg/l and 583 mg/l
- The concentrations of Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Nickel (Ni), Selenium (Se), Arsenic (As), and Mercury (Hg) are observed to be below detectable limits at all locations

1.3.5 Soil

In order to assess the quality of soil at different locations in the study area, various land use categories were taken into account. Soil sampling was carried out at Eight (08) locations in the study area.

- Silty Clay type soils are dominant in the study area
- pH of soils ranged between 7.58 and 8.52
- Electrical Conductivity varied between 54 $\mu\text{mhos/cm}$ and 304 $\mu\text{mhos/cm}$
- Nitrogen (N) varied between 46.8 Kg/ha and 436 Kg/ha
- Phosphorous (P) varied between 54.2 Kg/ha and 720 Kg/ha
- Potassium (K) varied between 216 Kg/ha and 864 Kg/ha
- Moisture Content varied between 1.43 % and 13.93%
- Bulk density varied between 1.16 gm/cc and 1.37 gm/cc

1.3.6 Biological Environment

Baseline biological survey was carried out to assess the ecology of the study area. The study area has open forest cover in the western region. Large tracts of the land are under Paddy, cotton, maize and chilli cultivation. There are no endangered / scheduled species found within the study area.

1.3.7 Socio Economic Environment

The project area of 10 Km radius has the population of 5,07,494. The project area is more urban as 72.71% of the population is in the urban area.

- Total households within the study area was 104054, Total population – 452714. The male and female ratio is 50.27 and 49.73 respectively. The child population is 51795.
- Health facility is available in the project area as Kadapa is the part of the project area. There is a District Hospital providing multi specialized health services in Kadapa town. Also, many Private hospitals and practitioners are available. There is no infectious disease in the project area. The Maternal Mortality Rate and Infant

Mortality rate have reduced significantly due to the availability of health care facility in rural area, skilled manpower, economic factor, education and awareness.

- Tap water is the main source of drinking water. The people are aware of the importance of purified water .In the case of sanitation access to the toilets is very low.
- The project area has a good number of educational institutions and well connected by road services. The dropout rate is falling over the period due to the accessibility of schools and awareness of the importance of education. The area has a good number of higher education intuitions
- Agriculture is the main occupation of the district. Nearly 60% (59.53%) of workers are involved in the agriculture and allied occupation. The principal crops can be classified as cereals, pulses, oil seeds and other crops.
- Kadapa Yerraguntla. Pulivendula, Proddatur Industrial estates are very close to the proposed Industrial estate. Bharathi Cements, Zuari Cements, India cements are reputed industries in the area.

1.4 Anticipated Environmental Impacts & Mitigation Measures

- APIIC proposes development of MIP in an area of about 6553.04 Acres (2651.92 Ha). The complete land for development of MIP is in possession of APIIC Ltd for more than two years. The land is devoid of any settlements and there will be some land acquisition and Resettlement or Rehabilitation for development of the proposed project.
- Sewage generated from various industries will be treated in proposed CSTP. Effluent generated from industries will be treated in proposed CETP followed by RO & ZLD. Rejects from RO will be treated in existing Multiple Effect Evaporator of MIP. Salts generated from MEE will be disposed to TSDF.
- Treated wastewater from CSTP will be used for green belt development/Toilet Flushing within MIP premises and treated effluents from CETP will be reused as non potable water for various applications (mostly utilities). Discharge of wastewater on land is not permitted and there will not be any impacts due to contamination of soil, ground and surface water (canals & numerous village ponds) in and around the project sites, so that the proposed system will be Zero Liquid Discharge (ZLD) system.
- Hazardous materials such as lubricants, paints, compressed gases, and varnishes etc., will be stored as per the prescribed/approved safety norms. Hazardous

materials will be stored as per prescribed safety norms in locations with restricted entry and with fire-fighting facilities.

- Hazardous wastes will be disposed through approved APPCB vendors..
- Modeling was done using Aeromod for calculating the ground level concentration. The predicted GLC for utility stacks and DG stacks for SO_x, NO_x and PM₁₀ were found within the NAAQ standards.
- All Process units of chemical industry in the MIP will be provided with APC measures of Suitable Wet Double Stage Scrubbers with Acid & Alkali Provision followed by Dry Scrubber with Activated Carbon media then routed to stack calculated as per MoEF&CC guidelines. Wet Scrubber circulation water has to be routed to Effluent stream for further treatment. Online Analyzers will be mounted for continuous monitoring as per CPCB Guidelines.
- All boilers will be provided with APC measures of Multicyclone & Bag Filters then routed to stack calculated as per MoEF&CC guidelines. Online Analyzers to be mounted for continuous monitoring as per CPCB Guidelines.
- All DG sets will be provided with stack & Acoustic measures as per CPCB Guidelines. Use of low sulphur diesel will minimize the emissions from D.G set. Location of DG sets and other emission generating equipment will be decided keeping in view the predominant wind direction so that emissions do not effect nearby residential areas.

1.5 Environmental Monitoring Programme

Environmental monitoring programme for both construction and operation phases of the project. During construction phase, monitoring locations are formulated as follows - Ambient air quality- 8 locations, noise levels- 8 locations, water quality(ground water- 8 locations, surface water- 4 locations), soil quality -8 locations and Meteorology. Of the eight locations Kopparthu, Thologanganapalle, Ambavaram, Rampathadu are within site, Beligi Palli towards SE of site, Putha Chinnayapallee towards N of site, Vellatur towards SW of site and Paidikalva towards NW of site. In the operation phase, the monitoring locations are proposed as given below. Ambient air quality- 8 locations, noise levels- 8 locations, water quality(ground water- 8 locations, surface water- 4 locations), soil quality -8 locations, Meteorology at site, effluent quality at both inlet and outlets – at 4 CETP, sewage quality at both inlet and outlet – at 2 CSTP, sewage sludge – from 2 CSTP. The budget for Environmental monitoring for a year during construction phase is proposed as Rs. 27 Lakhs and during operation phase is proposed as Rs. 89.95 Lakhs.

1.6 Risk Assessment and Disaster Management Plan

A disaster is a catastrophic situation in which suddenly, people are plunged into helplessness and suffering and, as a result, need protection, clothing, shelter, medical & social care and other necessities of life.

The Disaster Management Plan (DMP) is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. The objective of the DMP is to make use of the combined resources of the project facilities and the outside services to achieve the following:

- Effective rescue and medical treatment of casualties
- Safeguard other people
- Minimize damage to property and the environment
- Initially contain and ultimately bring the incident under control
- Identify any dead
- Provide for the needs of relatives
- Provide authoritative information to the news media
- Secure the safe rehabilitation of affected area
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

1.7 Project Benefits

The project area covers within MIP is classified as an important industrial park for integrated over all development by the APIIC. This MIP is going to benefit the entire region for fast track development. It will improve the overall socioeconomic growth of the region.

1.8 Environmental Management Plan

Following specific environmental management plan/measures are discussed;

- Administrative and Technical Setup for Environmental Management
- Rainwater harvesting
- Occupational health and safety
- Framework for environmental management to mitigate the environmental impacts, which are likely to arise due to the construction and operational phases of the project to be achieved through a suitable institutional mechanism.
- Budget for EMP is proposed as Rs. 370.8 Crores as capital cost and Rs. 3.85 Crores as operational cost.



- Budget for CSR initiative is proposed as Rs. 90 Lakhs as capital cost and Rs.7.5 Lakhs as operational cost.

1.9 Conclusion

- There is no forest land involved for the proposed project and hence forest clearance is not applicable for the project.
- There are no national parks/ wild life sanctuaries located within 10 Km radius of the project site.
- Green belt development of 33% will be ensured for the project.
- The proposed industrial park will also help to accommodate the relocation of several industries from the densely populated state capital.
- The project site shall require no displacement of habitation and away from the habitation area.
- The project site will have good approach roads being developed by the Government and thus will lead to hindrance free approach for transportation of heavy equipment without causing any problems for the public.
- The proposed project will improve the socioeconomic condition of surrounding area there by improving the economy of State and the country.



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