इंडियन ऑयल कॉर्पोरेशन लिमिटेड
तेलंगाण एवं आंध्र प्रदेश राज्य कार्यालय : 3-6-436 से 438,
दूसरी एवं तीसरी मंजिल, ''नासपुर हाउस'',
हिमायत नगर, हैदराबाद - 500 029.

Indian Oil Corporation Limited
Telangana & Andhra Pradesh State Office :
3-6-436 to 438, IInd / IIIrd Floor, "Naspur House",
Himayat Nagar, Hyderabad - 500 029.
Phones : 040-27686209 / 27686309.

IndianOil

विपणन प्रभाग
Marketing Division

Date: 22nd November, 2017

To,
The Member Secretary,
Expert Appraisal Committee (EAC),
Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi - 110 003

Respected Sir,

Kind Attention: Mr. S. K. Srivastav, Member Secretary

Subject: Submission of Form 1, PFR and other documents for augmentation in the existing facilities at Chittoor Terminal by M/s IOCL.

Category: 6(b) Isolated storage and handling of hazardous chemicals, Category-B

As the honourable State Level Expert Appraisal Committee (SEAC) of Andhra Pradesh is presently not in the functional state, considering the priority and national importance of the project we hereby, with reference to the above mentioned subject, are submitting the Form-1, PFR and other project related documents for augmentation in the existing facilities by M/s IOCL at Chittoor Terminal, M/s Indian Oil corporation Limited, Marketing Division, Yadamari Village & Mandal, Gudiyatham Road, Chittoor – 517422, Andhra Pradesh to the Expert Appraisal Committee (EAC). The project was earlier submitted to the Andhra Pradesh SEIAA/SEAC vide Proposal No. SIA/AP/IND2/18716/2017 dated 23.08.2017. We have already initiated baseline monitoring from October, 2017.

We kindly request you to accept the subject project documents and expedite the Environmental Clearance process.

We kindly request you to consider our application for issuance of ToR in the forthcoming EAC meeting.

Thanking you,

Yours Sincerely,

For M/s Indian Oil Corporation Limited

AUTHORISED SIGNATORY

ए.एम. राजु / A.M. RAJU
मुख्य प्रबंधक (प्रचालन)
CHIEF MANAGER (Ops)
आई ओ सी एल / टी ए पी एस ओ, हैदराबाद
IOCL/TAPSO, HYDERABAD.

FORM - I

FOR

AUGMENTATION IN THE EXISTING FACILITIES AT CHITTOOR TERMINAL.

SUBMITTED TO

M/s INDIAN OIL CORPORATION LIMITED

PREPARED BY

M/s. ULTRA-TECH
ENVIRONMENTAL LABORATORY AND CONSULTANCY
(Gazzeted By MoEF)
Unit No. 206, 224, 225 Jai Commercial Complex, Eastern Express Highway,
Opp Cadbury Factory, Khopat, Thane (West) – 400 061
Tel: 022 2534 2776, Fax: 022 25429650, Email: sales@ultratech.In
Website: www.ultratech.in

FORM 1

(I) Basic Information

S.No.	Item	Details
1.	Name of the Project/s	Augmentation in the Existing facilities at Chittoor Terminal by Indian Oil Corporation limited.
2.	S. No. in the schedule	6 (b)
3.	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	The proposed capacity of the project is 3000 KL; The total storage capacity of the project is 65022 KL for finished petroleum products. The proposed project is located on approx 18 ha (44.65 acres)
4.	New/Expansion/Modernization	Expansion
5.	Existing Capacity/Area etc.	18 ha (44.65 acres)
6.	Category of Project i.e. 'A' or 'B'	B
7.	Does it attract the general condition? If yes, please specify.	No
8.	Does it attract the specific condition? If yes, please specify.	No
9.	Location	Survey No: 120/1, 123/1, 124/1,2,3, 132/1,2,3, Yadamarri V & M Chittoor District Location Plan and Google Image are enclosed in **Annexure 1I– Pre-Feasibility Report**
	Plot/Survey/Khasra No	Survey No: 120/1, 123/1, 124/1,2,3, 132/1,2,3,
	Village	Yadamari
	Tehsil	Yadamari
	District	Chittoor
	State	Andhra Pradesh
10.	Nearest railway station/ airport along with distance in kms	Railway Station: Chittoor Railway Station-10km) Airport: Tirupati International Airport - 97.3 km
11.	Nearest Town, city, District Head quarters along with distance in kms.	Yadamari Village : 650 m
12.	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (Complete postal address with telephone nos. to be given)	District Head Quarter : Chittoor 9.6km
13.	Name of the applicant	M/s Indian Oil Corporation limited.
14.	Registered Address	**Indian Oil Corporation Ltd.** No. G-9 Ali Yavar Jung Marg, Bandra (E),

S.No.	Item	Details
		Mumbai - 400051 Tel-(022)-26447582
15.	Address for Correspondence	**Indian Oil Corporation Ltd.** No. G-9 Ali Yavar Jung Marg, Bandra (E), Mumbai - 400051 Tel-(022)-26447582
	Name	Shri G. Gurunath Rao
	Designation(Owner/Partner/ CEO)	DGM
	Address	Marketing Division, Chittoor Terminal Yadamari Village & Mandal, Gudiyatham Road, Chittoor – 517422 Andhra Pradesh
	Pin Code	517400
	Email	ggrao@indianoil.in
	Telephone No	08572-256521/ 8331011977
	Fax No	--
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet.	--
17.	Interlinked Project	None
18.	Whether Separate application of interlinked project will be submitted	NA
19.	If yes, date of submission	NA
20.	If no, reason	NA
21.	Whether the proposal involves approval/clearance under: if yes details of the same and their status to be given. a) The Forest (Conservation) Act, 1980 b) The Wildlife (Protection) Act, 1972 c) The C.R.Z Notification, 1991	NA
22.	Whether there is any Government Order /Policy relevant/relating to this site	No
23.	Forest land involved (hectares)	No
24.	Whether there is any litigation pending against the project and/ or land in which the project is propose to be set up: a) Name of the Court b) Case No. c) Orders/ directions of the Court, if any and its relevance with the proposed project.	No

- *Capacity corresponding to sectoral activity (such as production capacity for manufacturing, mining lease area and production capacity for mineral production, area for mineral exploration, length for linear transport infrastructure, generation capacity for power generation etc.,)*

(II) Activity

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

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	--
1.2	Clearance of existing land, vegetation and buildings?	No	--
1.3	Creation of new land uses?	No	--
1.4	Pre-construction investigations e.g. bore houses, soil testing?	No	Soil Investigation shall be carried out prior to construction
1.5	Construction works?	Yes	Construction of HSD, MS, SKO, Bio-Diesel and Ethanol storage tanks, as well as Amin Block, Control Room, etc. The Site Layout is as provided as **Annexure III.**
1.6	Demolition works?	No	--
1.7	Temporary sites used for construction works orhousing of construction workers?	No	Local workers will be involved so no labor colony required
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	Construction of HSD, MS, SKO, Bio-Diesel and Ethanol storage tanks, as well as Amin Block, Control Room, etc. The Site Layout is as provided as **Annexure III.**
1.9	Underground works including mining or tunneling?	No	--
1.10	Reclamation works?	No	--
1.11	Dredging?	No	--
1.12	Offshore structures?	No	--
1.13	Production and manufacturing processes?	No	--
1.14	Facilities for storage of goods or materials?	Yes	Construction of HSD, MS, SKO, Bio-Diesel and Ethanol storage tanks of capacity 65022 KL
1.15	Facilities for treatment or	Yes	**Solid Waste**:

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	disposal of solid waste or liquid effluents?		• Office waste like paper etc is expected. • Packing Material will be disposed per MSW Rules **Hazardous waste, if any,** • Used Lubricating Oil shall be sent to authorized vendor for disposal • OWS Sludge from tank cleaning (once in 5 years) **Domestic waste:** • Septic Tank along with soak pit
1.16	Facilities for long term housing of operational workers?	No	--
1.17	New road, rail or sea traffic during construction or operation?	No	--
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	--
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	--
1.20	New or diverted transmission lines or pipelines?	No	--
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	--
1.22	Stream crossings?	No	--
1.23	Abstraction or transfers of water form ground or surface waters?	No	--
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	--
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Construction materials will be transported in covered vehicles. Road network exists.
1.26	Long-term dismantling or	No	--

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	decommissioning or restoration works?		
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	--
1.28	Influx of people to an area in either temporarily or permanently?	No	--
1.29	Introduction of alien species?	No	--
1.30	Loss of native species or genetic diversity?	No	--
1.31	Any other actions?	No	--

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

2.1	Land especially undeveloped or agricultural land (ha)	No	--
2.2	Water (expected source & competing users) unit: KLD	Yes	Total Water requirement for the project will be $10m^3$ which will be fulfilled by existing bore well on site.
2.3	Minerals (MT)	Yes	For construction: Minor minerals like sand, grit and pebbles will be used
2.4	Construction material– aggregates, stone, sand, soil (expected source – MT)	Yes	Locally available Construction material like Cement, Sand, Grit, Bricks, Steel, etc. shall be purchased from the local vendors
2.5	Forests and timber (source – MT)	No	--
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	**Power Source**: Southern Power Distribution Company of Andhra Pradesh (SPDCAL) **Power requirement**: 2000kVA DG Sets: 2 x 625kVA and 1 x 325 kVA
2.7	Any other natural resources (use appropriate standard units)	No	--

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

3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health	Yes	Storage and distribution of petroleum products Class A (MS & Ethanol) & B (SKO, HSD) & Class C

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	or the environment (flora, fauna, and water supplies)		(Bio diesel) will be done in the Terminal
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	**--**
3.3	Affect the welfare of people e.g. by changing living conditions?	No	--
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	**--**
3.5	Any other causes	No	**--**

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

4.1	Spoil, overburden or mine wastes	No	**--**
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Food Waste from canteen, Office sweepings, Packing waste, Garden trash. Disposed by sale, reuse or compost.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	No hazardous waste will be generated as plant activity involves only receipt, storage & dispatch of Finished Petroleum products. Oily sludge generated during tank cleaning operations (once in 5 years) shall be sent to TSDF facilities or bioremediation. Used Lubricating Oil shall be sent to authorized vendor for disposal.
4.4	Other industrial process wastes	No	**--**
4.5	Surplus product	No	**--**
4.6	Sewage sludge or other sludge from effluent treatment	No	--
4.7	Construction or demolition wastes	No	--
4.8	Redundant machinery or equipment	No	**--**
4.9	Contaminated soils or other materials	No	**--**
4.10	Agricultural wastes	No	**--**
4.11	Other solid wastes	No	--

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
5.	**Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**		
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	No	-.
5.2	Emissions from production processes	No	**--**
5.3	Emissions from materials handling including storage or transport	No	Storage and distribution of petroleum products will be done in a closed system. Insignificant fugitive emissions of HC.
5.4	Emissions from construction activities including plant and equipment	Yes	The project may cause airborne dust during construction. Precautions would be taken to reduce dust generation during construction phase: ➢ Maximum use of RMC will minimize the handling of cement, sand and concrete thus dust emission will be minimized. ➢ Water sprinkling will be done at regular intervals to reduce the airborne dust
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	No	--
5.6	Emissions from incineration of waste	No	--
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	--
5.8	Emissions from any other sources	No	--
6.	**Generation of Noise and Vibration, and Emissions of Light and Heat:**		
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Use of certified pumps & moving machineries including DG sets to ensure minimum noise generation/vibration.
6.2	From industrial or similar processes	No	--
6.3	From construction or demolition	Yes	During temporary phase of construction, noise maybe generated due to movement of heavy equipment. Due to arc welding process for construction of tanks, some light & heat too may be generated. The construction area shall be barricaded properly.
6.4	From blasting or piling	No	--

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
6.5	From construction or operational traffic	Yes	Insignificant increase in noise may be observed due to construction activities (shall not exceed 24 hr. average value of 75 dB) and movement of tank lorries during operation phase.
6.6	From lighting or cooling systems	No	--
6.7	From any other sources	No	--

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

7.1	From handling, storage, use or spillage of hazardous materials	No	-
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	Domestic wastewater from administrative block.
7.3	By deposition of pollutants emitted to air into the land or into water	No	--
7.4	From any other sources	No	--
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	--

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

8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	Yes	Facilities will conform to standards laid by Petroleum & Explosives Standards Organization (PESO)/Oil Industry Safety Directorate(OISD) to ensure safety of the installation against fire/explosion, spillage etc. Installation will be well equipped to protect men, materials and Environment.
8.2	From any other causes	No	**--**
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	The proposed project is located in Seismic Zone III as per IS: 1893 and all designs will be as per IS Codes

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

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	or planned activities in the locality		
9.1	Lead to development of supporting utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other	No	--
9.2	Lead to after-use of the site, which could have an impact on the environment	No	--
9.3	Set a precedent for later developments	No	--
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	--

(III)Environmental Sensitivity

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location b
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	--
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	No	--
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	--
4	Inland, coastal, marine or underground	Yes	

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
	waters		
5	State, National boundaries	No	--
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	--
7	Defense installations	No	--
8	Densely populated or built-up area	Yes	Yadamari Village: 650m
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	No	--
10	Areas containing important, high quality or scarce resources*(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	No	--
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	No	--
12	Areas susceptible to natural hazard which could cause the project to present environmental problems(*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	No	--

(IV)Proposed Terms of Reference for EIA studies

Enclosed as **Annexure-I**

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

Date:

Place:

ANNEXURE I

Proposed TOR

Annexure – I

Terms of Reference for EIA for

Prepared for:

Environmental Baseline Data Collection
The baseline environmental status of project site and its surroundings shall be collected during Period through primary monitoring and surveys for relevant parameters and secondary data collection from related agencies.

a. Micrometeorology
Continuous micrometeorological data will collected for one season recording parameters such as: ambient temperature, wind speed and direction, relative humidity, rainfall and cloud cover.
Representative secondary data for study area from nearest IMD station will also be collected.

b. Ambient Air Quality:
The ambient air quality will be monitored for ONE season as per the guidelines of CPCB and Ministry of Environment, Forest and Climate Change. The parameters monitored include PM_{10}, $PM_{2.5,}$ SO_2, NO_x, Mercury (Hg), Hydro carbon (HC), Ozone (O_3), Lead (Pb), Carbon Monoxide (CO), Ammonia (NH_3), Benzene (C_6 H_6), Benzo amino Pyrene (BaP) – Particulate phase only, Arsenic (As) and Nickel (Ni) parameter.

c. Water Environment
Water quality data shall be collected through primary sampling of ground water and surface water sources located within the study area in ONE season. A total of 8-10 samples shall be collected from different sources representing surface and groundwater resources in the area. The samples were analyzed to establish the following:

- Physical parameters:
  pH, Temperature, Conductivity, Turbidity & Color
- Chemical parameters:
  Alkalinity, Total Dissolved Solids, Total Suspended Solids, Salinity, Oil & Grease, Dissolved Oxygen, Chlorides, Total Hardness, Calcium, Magnesium, Sulphate, Fluorides, Nitrate, Iron, Phenolic Compound, COD, BOD, Phosphate, Anionic Detergents, Heavy metals like Copper, Mercury, Barium, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc, Chromium, Aluminium & Manganese
- Bacteriological parameters:
  Total Coliform, Faecal Coliform

d. Soil Quality and Land Environment
4/5 soil samples will be collected during ONE season to assess the soil quality by estimating texture, moisture, sand, silt, clay, organic matter, alkalinity, acidity, specific gravity, bulk density, pH, electrical conductivity, Nitrogen, Phosphorous, Potassium, Ca, Mg, K, Chloride, Sulphate, Carbon, Fe, Cu, Zn, Mn, and Na.
Information regarding, topography, geology, vegetation, seismicity and land use pattern within the study area will be collected from relevant sources.

e. Traffic Volume
Information will be collected on traffic volumes for roads connecting the project area, if required.

f. Noise
Noise quality will be monitored and reported.

g. Sediments, if applicable

A total of 3 sediment samples will be collected and analyzed for parameters such as pH, conductance, TOC, NPK, Na, Ca, Mg, Cu, Zn, Cr, Pb, Cd and Benthic Fauna

h. Biological Environmental (Flora and Fauna)
Information on flora and fauna, within, study area will be gathered from Divisional Forest office.

i. Socio-Economic Environment
Secondary information on socio-economic parameters within 10 km radius of the project site will be collected with respect to demography such as households, population, villages and tehsils/taluka population distribution, literacy levels, employment pattern, primary health care facilities available, scheduled castes, scheduled tribes, and transport, communication and welfare facilities.

j. Cultural Environment
Information will be collected on existence of historical, religious and cultural monuments of regional, national and international or archaeological importance located within the study area.

4.0 Impact Assessment

The study will aim to identify, characterize and evaluate potential impacts arising out of the proposed expansion and prioritize them so that they can be effectively addressed through Environment Management Plans and Project designing and planning.

a. Impact Identification
The preliminary identification of the potential impacts will be carried out based on the understanding of the project gained during the scoping exercise and field visit. An environmental matrix linking various project activities with environmental and socio economic issues will be developed to formally present an overview of its impacts indicating cause-effect relation.

b. Impact Prediction
Quantitative prediction would be carried out for air and noise quality status. The widely accepted Industrial Source Complex (ISC3) Short Term Model will be used after an inventory of air pollutants from the stacks is reported.

Environmental Management Plan
The Environment Management Plan (EMP) will describe the environmental practices and procedures which are to be systemically applied by the proponent during planning, construction, operation maintenance and in order to manage potential environmental and other effects.
EMP will mainly address the following task areas.

- Construction waste management plan
- Air quality and dust control plan
- Water quality/ quantity monitoring plan
- Hazardous waste management plan
- Vegetation monitoring plan
- Others, if need identified with regulatory agencies.

6.0 Risk Assessment and Disaster Management Plan

Potential Hazards that may arise out of storage/transportation of hazardous chemicals/materials or due to operation of various processes at the proposed project will be systematically identified using standard hazard identification procedures.

Based on the above, a plant level emergency management plan will be drafted which would subsequently be integrated with the Emergency/Disaster Management Plan. The resources in terms of equipments and staffing required for acquiring control on a potential emergency situation will also be dealt as a part of the chapter.

7.0 EIA Reporting

The report will include supporting documents as necessary, a list of findings, impacts and proposed mitigation measures. Following would be the generic structure of the report as per the guideline set by EIA Notification 2006:

1) Introduction
2) Project Description
3) Description of the Environment
4) Anticipated Environmental Impacts and Mitigation Measures
5) Analysis of alternatives
6) Environmental Monitoring Program
7) Additional Studies
8) Project Benefits
9) Environmental Cost Benefit Analysis
10) Environmental Management Plan
11) Summary and Conclusion
12) Disclosure of the Consultants engaged

The draft EIA report will be further finalized by incorporating comments and views obtained from different stakeholders during the Public Consultation and through letters/ representations before submission to the Appraisal Committee. Annexed to the report, there would also be the notes and proceedings of the public hearing, list of references and other relevant documents, photographs etc.

ANNEXURE II

Pre-Feasibility Report

PRE-FEASIBILITY REPORT

FOR

AUGMENTATION IN THE EXISTING FACILITIES AT CHITTOOR TERMINAL.

SUBMITTED TO

M/s INDIAN OIL CORPORATION LIMITED

PREPARED BY

M/s. ULTRA-TECH
ENVIRONMENTAL LABORATORY AND CONSULTANCY
(Gazzeted By MoEF)
Unit No. 206, 224, 225 Jai Commercial Complex, Eastern Express Highway,
Opp Cadbury Factory, Khopat, Thane (West) – 400 061
Tel: 022 2534 2776, Fax: 022 25429650, Email: sales@ultratech.In
Website: www.ultratech.in

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1. EXECUTIVE SUMMARY

M/s. Indian Oil Corporation Limited (IOCL) is a government of India enterprise with a Maharatna status, and a Fortune 500 and Forbes 2000 company. Incorporated as Indian Oil Corporation Ltd. on 1st September, 1964 Indian Oil and its subsidiaries accounts for nearly half of India's petroleum products market share, 35% national refining capacity (together with its subsidiary Chennai Petroleum Corporation Ltd., or CPCL), and 71% downstream sector pipelines through capacity. The IOCL Group owns and operates 11 of India's 23 refineries with a combined refining capacity of 80.7 MMTPA (million metric tonnes per annum).

IOCL is a premier public sector company in the Oil & Gas Sector and is engaged in the business of refining and retailing of petroleum products including LPG in the country. It is the leading Indian corporate in the Fortune 'Global 500' listing, ranked at the 168th position in the year 2017.

IndianOil's network of over 46,000 customer touch-points reaches petroleum products to every nook and corner of the country. These include more than 26,000 petrol & diesel stations, including 6,565 Kisan Seva Kendra outlets (KSKs) in the rural markets. Over 10,000 fuel stations across the country are now fully automated.

The Corporation has a 65% share of the bulk consumer business, and almost 6,500 dedicated pumps are in operation for the convenience of large-volume consumers like the defence services, railways and state transport undertakings, ensuring products and inventory at their doorstep. They are backed for supplies by 129 bulk storage terminals and depots, 101 aviation fuel stations and 91 LPG bottling plants.

M/s Indian Oil Corporation Ltd (IOCL), proposes to augment existing POL Terminal at Village Yadamari, Dist – Chittoor, (Andhra Pradesh). The augmentation at the Terminal shall fully comply with CCOE, OISD (Oil Industry Safety Directorate) standards mainly 117, 118 & 244) and other Statutory requirements.

Proponents have proposed to construct within the area of ~18 ha (44.51 acres) already owned by IOCL.

The company appointed **M/s. Ultra Tech Environmental Consultancy & Laboratory (MoEFCC recognized and NABL approved)**, Thane to carry out study of the impacts of the project on local environment and for obtaining Environmental Clearance. **Ultra Tech** is an established Consultancy in the field of Environmental Services. Company is giving services in this field for past 30 years.

The brief details of the project are as provided in **Table 1**.

Table 1: Project Details

Sr. No.	Reference to Proposed Site	Description
a.	Ownership	M/s Indian Oil Corporation limited
b.	Area	~18 ha (44.51 acres)
c.	Nature of Proposed Project	Augmentation of Existing POL Terminal at Chittoor, AP
d.	Material Transportation Facilities	Receipt by cross-country pipelinel: MS, HSD & SKO products are received through 14" dia dedicated Pipeline, Ex. CPCL Refinery Manali Dispatch by Road: Retail Outlets and consumers across Chittoor, part of Kadapa, Anandapur and Nelloor districts through Tank trucks Site is well connected with nearby SH 88 – 10 m
e.	Settled areas nearby with distance	Chittoor Railway station: 10 km Yadamari Village: 650 m
f.	Over all Project Cost	INR 8.27 Crores
g.	Manpower	No additional manpower is envisaged during Operation Phase. Construction Phase : 100 - 200 Nos
h.	Project completion time	12 months upon approval of Statutory Clearances

2. INTRODUCTION

2.1 Project Proponent

Indian Oil Corporation Limited (IOCL) is a government of India enterprise with a Maharatna status, and a Fortune 500 and Forbes 2000 company. Incorporated as Indian Oil Corporation Ltd. on 1st September, 1964 Indian Oil and its subsidiaries accounts for nearly half of India's petroleum products market share, 35% national refining capacity (together with its subsidiary Chennai Petroleum Corporation Ltd., or CPCL), and 71% downstream sector pipelines through capacity. The IOCL Group owns and operates 11 of India's 23 refineries with a combined refining capacity of 80.7 MMTPA (million metric tonnes per annum).

IOCL is a premier public sector company in the Oil & Gas Sector and is engaged in the business of refining and retailing of petroleum products including LPG in the country. It is the leading Indian corporate in the Fortune 'Global 500' listing, ranked at the 168th position in the year 2017.

2.2 Nature of Project

The main activities of the Terminal will be RECEIPT, STORAGE and DISPATCH. The Terminal currently receives stores and distributes Petroleum Products like Motor Spirit (MS), Ethanol, High Speed Diesel (HSD) and Superior Kerosene Oil (SKO).

With the proposed expansion there will be additional Ethanol Tanks as well as Bio-Diesel.

No by-products / additional products are generated / manufactured during the operations. Hence, the present proposal is classified under Schedule 6(b) & Category 'B' according to EIA Notification 2006 & subsequent amendments.

3. SITE INFORMATION

Indian Oil Corporation Limited (IOCL) has proposed to expand POL Terminal at Village Yadamari, District Chittoor, Andhra Pradesh. The project location is well connected with Chittoor railway station by a distance of 10 km. The total plot admeasuring 18 ha (44.65 acres) and owned by IOCL.

3.1 Site Alternates

The proposed project is expansion within the already existing project premises of POL Chittoor Terminal and hence no site alternates were examined for the proposed project.

3.2 Environmental Setting

The Environmental Setting in 10 km radius of project site is presented in **Table 2**.

Table 2: Environmental Setting

Sr. No.	Particulars	Details
	Plant location	Village Yadamari, District Chittoor, State Andhra Pradesh
	Approx site Centre point Coordinates	Latitude: 13.165009° Longitude: 79.038877°
	Climatic conditions at Yadamari, Gulbarga IMD station 2016	
	Maximum temperature	38^0 C
	Minimum temperature	24.6^0 C
	Annual rainfall (total)	862 mm
	Relative humidity	Maximum - 80 % Minimum - 28 %
	Plant site elevation above MSL	1135 ft
	Plant site topography	Plain
	Present land use at the site	Land use pattern is notified for industrial use
	Nearest highway	SH 88 : 10 m
	Nearest railway station	Chittoor Railway station- 10 km
	Nearest Airport	Tirupati International Airport: 97.3 km
	Nearest major water bodies	Nil
	Nearest town/City	Chittoor City : 9.6 km
	Archaeologically important places	Nil
	Protected areas as per Wildlife Protection Act, 1972 (Tiger	Nil

Sr. No.	Particulars	Details
	reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	
	Reserved / Protected Forests	Nil
	Defence Installations	Nil
	List of major Industries in 10 km radius	
	Seismicity	Seismic Zone-III as per IS 1893 (Part I): 2002

The location map of the project site is as depicted in **Figure 1** and Google Image is as shown in **Figure 2**.

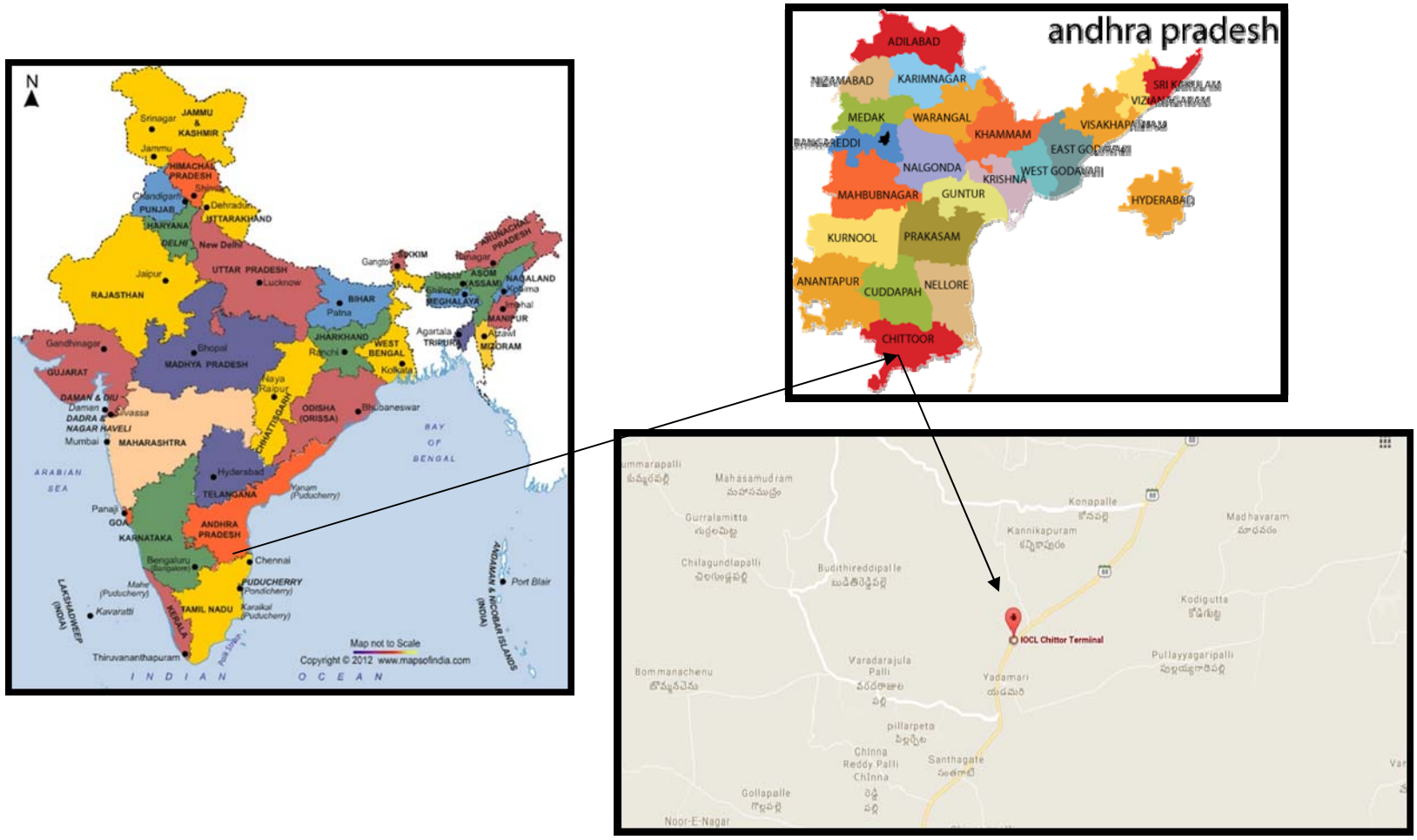


Figure 1: Project Location

Figure 2: Google Image of the Project Site

3.3 Land Use and Land Ownership

The expansion is being proposed in the existing POL Terminal and hence no change in land use is envisaged. The existing land use is Industrial.

3.4 Water Requirement

Water will be used for human consumption during construction and operation. Process water will not be required for operation of the facilities since no processing/ production is involved. The current water requirement for mock drills, gardening and domestic use will be around $10m^3$/day is being sourced from existing borewells on site. No additional water requirement is envisaged with proposed expansion.

3.5 Power Requirement

Total power requirement for operation of the POL Terminal has been worked out as 6.6 kV. The same is being obtained from Andhra Pradesh State Electricity Board (APSEB). 6.6 kV grid and further distribution system shall be provided. Backup power arrangement is provided by 1x320, 1x625kVA stand by capacity of DG sets. No additional power and DG Sets are envisaged for proposed expansion.

3.6 Manpower Requirement

Approximately 100 - 200 Nos total manpower (Skilled/Unskilled) is estimated during the construction stage.

The current manpower requirement for the Operation of Terminal is as follows:

CATEGORY	**NOS.**
Company Staff	7
Officers	14
Total	**21**

No additional Manpower is envisaged for proposed expansion.

4. PROJECT DESCRIPTION

There is no manufacturing process involved in the terminal. The process involved can be divided into

- Receipt of finished petroleum products through cross country pipeline.
- Storage of petroleum products in storage tanks fabricated as per international standards.
- Dispatch of petroleum products through Tank Lorries.

The entire operation of RECEIPT, STORAGE AND DISPATCH of petroleum products is carried out in a closed system thereby eliminating risk of spillage of products and to achieve enhanced safety.

4.1 Receipt through Rail Siding

Receipt by cross-country pipelinel: MS, HSD & SKO products are received through 14" dia dedicated Pipeline, Ex. CPCL Refinery Manali.

4.2 Storage in Tank Farm

The POL Terminal of IOCL has been provided with Petroleum Storage Tanks for Class 'A' and Class 'B' products. The classification of the products is summarized in **Table 3**.

Table 3: Petroleum Products Classification

Name of Product	Petroleum Name	Petroleum Class	Flash Point
MS, Ethanol	Motor Spirit	A	$< 23^0$C
HSD, SKO	High Speed Diesel	B	$> 23^0$ C, $< 65^0$. C

The tanks for both the products shall be Vertical Cone Roof with Internal Floating Roof for Class 'A'. All petroleum products storage tanks are Designed, Fabricated, Erected and Tested as per API-650 Standard, (American Petroleum Industries), 11th Edition.

The POL Terminal is in accordance with Petroleum Rules, OISD 117, 118, 244 and approved by PESO, Nagpur. The details of Petroleum Storage Tanks are as follows shown in **Table 4**.

Table 4: Storage Tank Details

Tank	Capacity (m^3)	Total Tanks	Class	Type	Total storage (m^3)
Existing					
MS	2984	1	A	FR	2,984
MS	6107	2	A	FR	12,214
SKO	1578	1	B	CR	1,578
SKO	4382	1	B	CR	4,382
HSD	8893	4	B	CR	35,572
HSD	4382	1	B	CR	4,382
Ethanol	200	2	A	UG	400
Transmix	510	1	-	CR	510
				Existing Total	**62,022**
Proposed					
Ethanol	1000	2	A	UG	2000
Bio-Diesel	500	2	--	CR	1,000
				Proposed Total	**3000**
				Total	**65022**

CR – Cone Roof Vertical Tank
FR – Internal Floating Roof Vertical Tank
UG – Underground Horizontal Tank

Note: - The above tankage shall be developed in line with latest API 650 design standards and OISD regulations. Above dimensions are tentative and shall be finalized during detailed engineering after receipt of environment clearance

4.3 Dispatch through Tank Lorries

Dispatch by Road: Retail Outlets and consumers across Chittoor, part of Kadapa, Anandapur and Nelloor districts through Tank trucks.

4.4 Plant and Non Plant Buildings and Other Civil Works

The list of major Plant and Non – Plant Buildings existing is given in **Table 5** and also see **Figure 3** for Site Layout.

Table 5: Plant and Non-Plant Buildings

Sl. No.	Description	Dimensions
1	Security Cabins	5.0M X 5.0M
2	Car Cycle Shed	4.5M X 30M

Sl. No.	Description	Dimensions
3	Calibration Facility	8.0 M X 6.2 M
4	Fire Water Pump House	9 M X 36 M
5	PMCC Room	32.96 M X 21.30 M
6	Admin Block	30 M X 20 M
7	Control Room	30.60 M X 16.50 M
8	Stores	12M X 10M
9	TLF gantry	48 M X 10M
10	TLF Pump House	53.2M X 6M
11	S & D Room	15 M X 10M
12	Electrical HT yard	20 M X 6M
13	Admin Building	30 M X 20 M
14	T/T checking and sealing	3.0 M X 2 M
15	Fire equipment room	5 M X 5 M
16	Pipe Bridge	200 M X 1.5M
17	TT crew rest room	14 M X 8 M
18	TLD Shed	10 M X 6 M
19	Vapour Recovery Unit	3 M X 3 M
20	Sample room	10 M X 6 M
21	Housekeeping rest room	8 M X 4 M
22	T/T Surprise checking shed	6M X 4M
23	Portable Water Pump	8.2 M X 3.16 M
24	Dosing Pump House	6M X 4M
25	Slop Tank Arrangement	9 M X 5 M
26	Ethanol Tank Arrangement	21 M X 14 M
27	CBPL main line pump	26.96 M X 15.20M
28	Security and utility	11.34 M X 9.49 M

Other facilities included in civil works are the following:

- Compound wall around TT parking area.
- Retaining walls.
- Segregation fencing and internal fencing.
- Main approach road (from site boundary)
- Internal Roads.
- Approach road to site from nearest existing road.
- Pump house manifold.
- TT parking area with parking slots (100 TT's), Driver's Rest room, drinking water facility, wash room etc.
- Storm water drainage system.
- TT Unloading platform.
- Septic tank soak pit etc.

- Bore wells.
- Rain water harvesting facilities.
- Landscaping and horticulture works with drip / sprinkler irrigation.
- Sealing Platforms.
- Any other requirement as specified in OISD 117,118and 244.

Figure 3: Project Site Layout Plan

4.5 Tank Fabrication Works

Following are existing and proposed tanks which are designed as per API 650/ IS 10987 (as applicable) and Design consideration as stated in OISD 244.

Existing:

- HSD, Storage Tanks 4 x8893 KL and 1 x 4382 KL Above Ground Vertical Cone Roof.
- MS, Storage Tanks 1 x 2984 KL and 2 x 6107 KL Above Ground Vertical Cone Roof – with Internal Floating Roof.
- SKO, Storage Tanks 1 x 4382 KL and 1 x 1578 KL Above Ground Vertical Cone Roof.
- Transmix 1 x 510 KL Above Ground Vertical Cone Roof.
- Ethanol Tanks 2 x 200KL, preferably underground along with Ethanol handling system.

Proposed:

- Ethanol Tanks 2 x 1000 KL, preferably underground along with Ethanol handling system
- Bio-Diesel 2 x 500 KL Above Ground Vertical Cone Roof.

4.6 Pipeline Works

Independent arrangement for TLF/TLD and TWD pumping facilities. Adequate number of pumps including standby pumps will be provided for the Terminal facility.

The Terminal receives Petroleum Products like Motor Spirit (MS), High Speed Diesel (HSD) and Superior Kerosene Oil (SKO) from M/s. CPCL Refinery Manali. The Terminal also handles Ethanol, which is mixed in a proportion of 10% by volume with MS for dispatches.

MS, HSD & SKO products are received through 14" dia dedicated Pipeline, Ex. CPCL Refinery Manali. The Terminal supplies Petroleum Products to Retail Outlets and consumers across Chittoor, part of Kadapa, Anandapur and Nelloor districts through Tank trucks.Design provision shall be kept for augmentation for additional product flow. Provision to be made to do additive dosing at each bay of TLF gantry.

Bottom Loading Facilities are proposed for all products. If required, as per statutory norms Vapour Recovery System is to be provided for MS Tank Truck Loading.

All connected works such as pipeline flanges, gaskets, valves, pipeline trestles, pipe bridges, pipe culverts, pipeline pedestals, saddle plates, PRV's/TSV's, paving in pipeline corridor etc.

including material procurement as per required specification and installation are included in the scope.

Pipeline manifolds at TLF pump house, TWD pump house valves, catwalks, operating platforms, jet nozzles for MS and HSD etc. are required.

ROSOV (pneumatic) as tank body valves, MOV on inlet, outlet and recirculation lines and DBBV for positive segregation to be provided.

Suitable pumps with standby units are to be provided for TT loading along with ancillaries such as strainers, NRV's and necessary electrification system. Submersible pumps are required for underground tanks.

5. ENVIRONMENT CONTROL MEASURES

- During construction phase there will be fugitive emissions due to movement of equipment at site, dust emitted during the levelling, grading, earthworks, foundation works and other construction related activities. These impacts will however, be marginal and temporary in nature.
- Periodic leak detection and repair LDAR survey shall be carried out to detect & control such measures.
- Sewage generation is envisaged during operation phase and hence Septic Tank followed by Soak Pit is proposed to cater the sewage load. Sewage from the administration building will be routed to the septic tanks followed by soak pits and the sludge generated from the septic tank will be dried and used as manure for green belt area.
- The DG sets shall be acoustically insulated resulting in reduction of noise as per limits prescribed by State Pollution Control Board. The exhaust pipe from DG sets shall be taken above the building as per State Pollution Control norms.
- No process / manufacturing involved. There is no hazardous waste as well as solid waste is generated from process. The waste oil generated from DG sets and fire engines will be collected in barrel and stored in a closed shed until its disposal and the same will be disposed/Sold to authorised vendor
- All conditions & pre-requisites of water and air consents together with certificate to handle hazardous products issued by State Pollution Control Board shall be strictly adhered to.

6. FIRE AND SAFETY MEASURES

6.1 Fire Protection Facilities

Fire protection facilities conforming to latest applicable OISD standards, latest Petroleum Rules are to be provided as stated below:

- Full fledge auto-pressurized Fire Hydrant System to cover all facilities in the Terminal as per OISD-117/118/244 norms including Tank Truck Parking Area, as per latest Safety Norms.
- Fire Fighting Pumps with diesel engines including stand by units.
- Fire Hydrant network system with monitors & hydrant valves.
- Jockey Pumps.
- Fixed Foam discharge and sprinkler systems for vertical tanks.
- Medium Expansion Foam Generators for Dyke Area.
- Foam compound storage and delivery system.
- Remote operated HVLR variable flow water cum foam monitors fixed type or portable type as per requirement,
- Water sump and pumping facilities.
- Portable fire fighting equipment as per OISD standards.
- Any other requirement as specified in OISD 117, OISD 118 and OISD 244.

6.2 Electrical Systems

Total power requirement for operation of the POL Terminal has been worked out as 2000 kVA. The same shall be obtained from Southern Power Distribution Company of Andhra Pradesh (SPDCAL) and further distribution system shall be provided. Backup power arrangement by providing 100% stand by capacity of DG sets shall be provided.

Electrical works include providing all facilities required as per codes, standards and IE rules, OISD guidelines and petroleum rules, which include the following, as applicable:

- HT yard.
- HT receipt facilities
- Transformer

- HT panels
- Cabling
- MCC and LT panels
- DG sets for power and lighting (100% stand by capacity)
- VFD for TLF pump motors
- Building and yard lighting to provide minimum lux levels area wise as per OISD 244
- Provision of Solar system for buildings and yard lighting
- Earthing, Bonding and Lightning protection systems
- UPS system of adequate capacity
- Air-conditioning system
- PA/Paging and communication systems
- Emergency shut-off system as specified in OISD standard
- All electrical facility as per requirement of the Terminal
- Earthing at all the facilities and structures including tanks as per IS 3043 and complying to statutory norms
- All Power and control cables shall be laid either underground or over GI cable trays with proper segregation between Power and control/instrumentation cables. Cable route markers and identification tags to be provided
- Any other requirement as specified in OISD 117, OISD 118 and OISD 244

6.3 Safety Systems

- The company shall obtain all requisite clearances from Chief Control of Explosives and other statutory authorities.
- Oil Industry Safety Directorate guidelines regarding Safety against Fire, Spillage, and Pollution control etc. shall be maintained and followed.
- Shall comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989, as amended in 2000 and the Public Liability Insurance Act for handling of hazardous chemicals etc. All the hazardous waste shall be properly treated

and disposed off in accordance with the Hazardous Waste Rules 2008 and its subsequent amendments

- Adequate buffer zone around the Petroleum Oil Terminal shall be provided, as may be required as per OISD or other statutory requirements.
- During rainy season, the storm water drains shall be connected to oil water separator and passed through guard pond.
- Offsite disaster management plan shall be prepared in accordance with the District Authority and be implemented. Emergency Response Plan shall be based on the guidelines prepared by OISD.
- Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.
- Green belt shall be developed to mitigate the effect of fugitive emission all around the POL Terminal.
- Dedicated parking facility for loading and unloading of material should be provided in the POL Terminal. Unit should develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.
- Necessary approvals and licenses from Chief Controller of Explosives shall be obtained before commission of project.

6.4 Automation and Instrumentation

Automation / Instrumentation system will be as per IOCL's latest Terminal Automation System (TAS) philosophy, which includes the following, as applicable:

- Terminal Automation System, Tank farm management system including Radar Gauges, Multi-Point Temperature Sensors, Pressure Transmitters, Overspill detection and audio, visual alarm system etc.
- Tank Truck loading system including, Mass Flow meters, Batch Controller, DCV etc.
- Ethanol Blending and MFA dosing systems.
- Other field equipment such as online density and temperature sensors, Field Automation and Integration of Sub system ROSOV's, MOV's, DBBV's, Electrical sub systems, product delivery pumps, fire fighting systems.
- Tank Truck Entry system, bay queue display etc.

- Control Room equipment such as LRC, OIC's, Servers, PLC's, UPS etc. and necessary TAS software.
- Position sensors for tank dyke valves etc.
- Safety Shutdown System covering Automated Overfill Prevention System, ESD system.
- Meters proving and Calibration facilities.
- ROSOV's, MOV's, DBBV's master station, Push Button Stations etc.
- Necessary cabling, control panel, earthing, etc.
- Air Compressor/Air Dryer/Air receiver and piping for pneumatic systems.
- Access control, zoning and multi zoning systems, security features like DFMD's HHMD's etc.
- CCTV system to cover total Terminal facilities including perimeter wall.
- Hydrocarbon detectors and flow sensors etc. near all potential leak sources of class ' A' petroleum product,
- Other automation systems and its interface of SAP system with TAS, and to ensure that engineering and design addresses the need for standardization.
- Any other requirement as specified in OISD 117, OISD 118 and OISD 244.

6.5 Painting

All equipment, structures, pipelines, buildings, sheds, compound wall etc. shall be painted as per IS-Code and as per standards engineering practice. Standard Colour Branding scheme of IOCL will be followed, as per directions.

6.6 Pollution Control Facilities

- Pollution Control facilities as per latest MoEF norms and meeting State pollution
- Control Board rules and stipulated as per consent letters/EC conditions.
- Effluent to meet pollution control norms and oil contents not to exceed stipulated level as per guide lines/statutory norms.
- Exhaust pipes of diesel engines as per air pollution control norms.
- Noise level of diesel engines not to exceed laid down norms by the state pollution control board. Acoustic enclosures are to be provided.

ANNEXURE III

Site Layout

TANK SCHEDULE

SR. NO.	TAG NO.	SIZE DIA X HT.	PRODUCT	SAFE FILLING CAPACITY	TANK TYPE	CLASS
1	T - 1	28 M DIA X 14.5 M HT	HSD	8526.950 KL	CR	B
2	T - 2	28 M DIA X 14.5 M HT	HSD	8541.005 KL	CR	B
3	T - 3	28 M DIA X 14.5 M HT	HSD	8521.455 KL	CR	B
4	T - 4	28 M DIA X 14.5 M HT	HSD	8523.720 KL	CR	B
5	T - 5	24 M DIA X 16.0 M HT	MS	6238.007 KL	IFR	A
6	T - 6	24 M DIA X 16.0 M HT	MS	6241.664 KL	IFR	A
7	T - 7	20 M DIA X 12.0 M HT	MS	3097.090 KL	IFR	A
8	T - 8	20 M DIA X 14.0 M HT	HSD	4199.436 KL	CR	B
9	T - 9	12 M DIA X 14.0 M HT	SKO	1509.103 KL	CR	B
10	T - 10	20 M DIA X 14.0 M HT	SKO	4190.600 KL	CR	B
11	T - 11	4.12 M DIA X 15.0 M L	ETHANOL	200 KL	HORZ.	A
12	T - 12	4.12 M DIA X 15.0 M L	ETHANOL	200 KL	HORZ	A
13	T - 15	10 M DIA X 9 M HT	TRANSMIX	615.147 KL	IFR	A
13	T - 16	1.60 M DIA X 2.75 M HT	MS	5 KL	HORZ.	A
13	T - 17	1.60 M DIA X 2.75 M HT	HSD	5 KL	HORZ.	B
13	T - 18	1.60 M DIA X 2.75 M HT	SKO	5 KL	HORZ	B
			TOTAL	60869.157 KL		

FW TANK SCHEDULE

1	WT 1/T13	24 M DIA X 13.0 M HT	WATER	5300 KL	CR	10600 KL
2	WT 2/T14	24 M DIA X 13.0 M HT	WATER	5300 KL	CR	

TLF PUMP SCHEDULE

SR. NO.	PRODUCT	NO. OF PUMPS		CAPACITY	HEAD MH
		OPERATING	STANDBY		
1	MS	2	1	4000 LPM	40
2	SKO	1	1	4000 LPM	40
3	HSD	5	2	6000 LPM	55
4	ETHANOL	2	-	600 LPM	40

TLD PUMP SCHEDULE (HORIZONTAL)

SR. NO.	PRODUCT	NO. OF PUMPS		CAPACITY	HEAD MH
		OPERATING	STANDBY		
1	MS	1	-	1200 LPM	**30**
2	SKO	1	-	1200 LPM	30
3	HSD	1	-	1200 LPM	30
4	ETHANOL	1	-	1200 LPM	22

FIRE WATER PUMP SCHEDULE

SR. NO.	PRODUCT	NO. OF PUMPS		CAPACITY	HEAD MH
		OPERATING	STANDBY		
1	WATER	3	2	616 CUM/HR	105
2	WATER	1	1	95 CUM/HR	110

SLOP TANK PUMP SCHEDULE

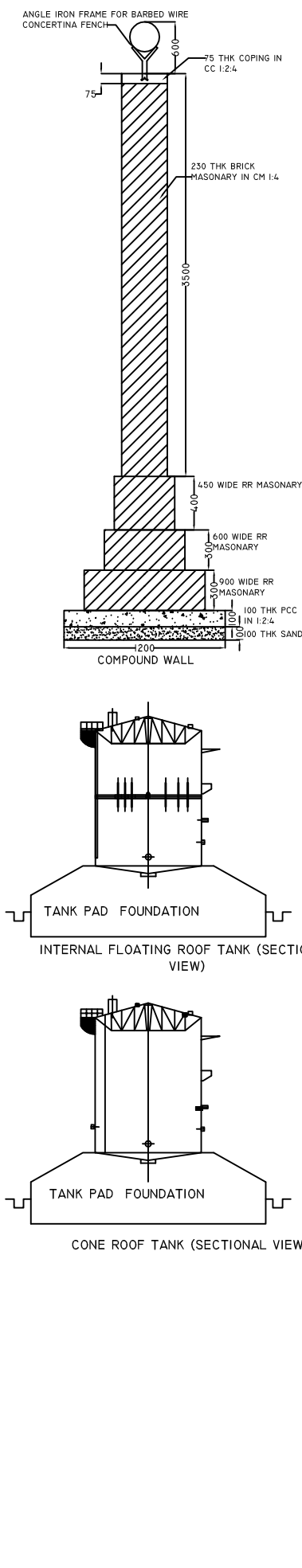
SR. NO.	PRODUCT	NO. OF PUMPS		CAPACITY	HEAD MH
		OPERATING	STANDBY		
1	HSD	1	-	300 LPM	30
2	SKO	1	-	300 LPM	30
3	MS	1	-	300 LPM	30

S.No.	DESCRIPTION	SIZE	No.
1	S & D BLOCK	15 M X 10 M	1
2	ELECTRICAL HT YARD	20 M X 6 M	1
3	ADMINISTRATIVE BUILDING	30M X 20 M	2 FLOORS
4	AMENITY BUILDING	18 M X 10 M	2 FLOORS
5	CAR/SCOOTER/CYCLE SHED	4.5 M X 30 M	1
6	STORES	12M X 10 M	1
7	FIRE PUMP HOUSE	9 M X 36 M	1
8	SECURITY ROOM	5M X 5M	1
9	T/T CHECKING & SEALING CUM WATCHMAN KIOSK	3.0 M X 20 M	1
10	FIRE EQUIPMENT ROOM	5 M X 5 M	1
11	TLF PUMP HOUSE	53.2 M X 6 M	1
12	T T CALIBRATION FACILITY	8 M X 6.2 M	1
13	OIL WATER SEPARATOR	2 M X 6 M	2 NOS.
14	TLF	48 M X 10 M	3 NOS.
15	PIPE BRIDGE	200 M X 1.5M	1
16	TT CREW REST ROOM	14 M X 8 M	1
17	TLD SHED	10 M X 6 M	1
18	VAPOUR RECOVERY UNIT	3 Mx3 M	1
19	SAMPLE ROOM	10 Mx6 M	1
20	BLUE DYE/ MARKER FACILITY	19M X 8 M	1
21	TLD PUMP HOUSE	6 M X 12 M	1
22	HOUSE KEEPING WORKMEN REST ROOM	8 M X 4 M	1
23	TT SURPRISE CHECK SHED	6 M X 4 M	1
24	POTABLE WATER SUMP	8.2 M X 3.16 M	1
25	DOSING PUMP HOUSE	6 M X 4 M	1
26	SLOP TANKS ARRANGEMENTS	9 M X 5 M	3
27	ETHANOL TANKS ARRANGEMENTS	21 M X 14 M	2
28	CONTROL BUILDING	30.60 M X 16.50 M	1
29	PMCC BUILDING	32.96 M X 21.30 M	1
30	SAMPLE ROOM	3.46 M X 3.46 M	1
31	CBPL MAIN LINE PUMP SHED	26.96 M X 15.20 M	1
32	SECURITY & UTILITY	11.34 M X 9.49 M	1

S.No.	DESCRIPTION	SYMBAL	No.
1	CCTV CAMERA	©	39
2	HIGH MAST	☒HM	11
3	BOOM BARRIER/ACCESS CONTROL	BB	9
4	TURNSTILE	▭TS	6

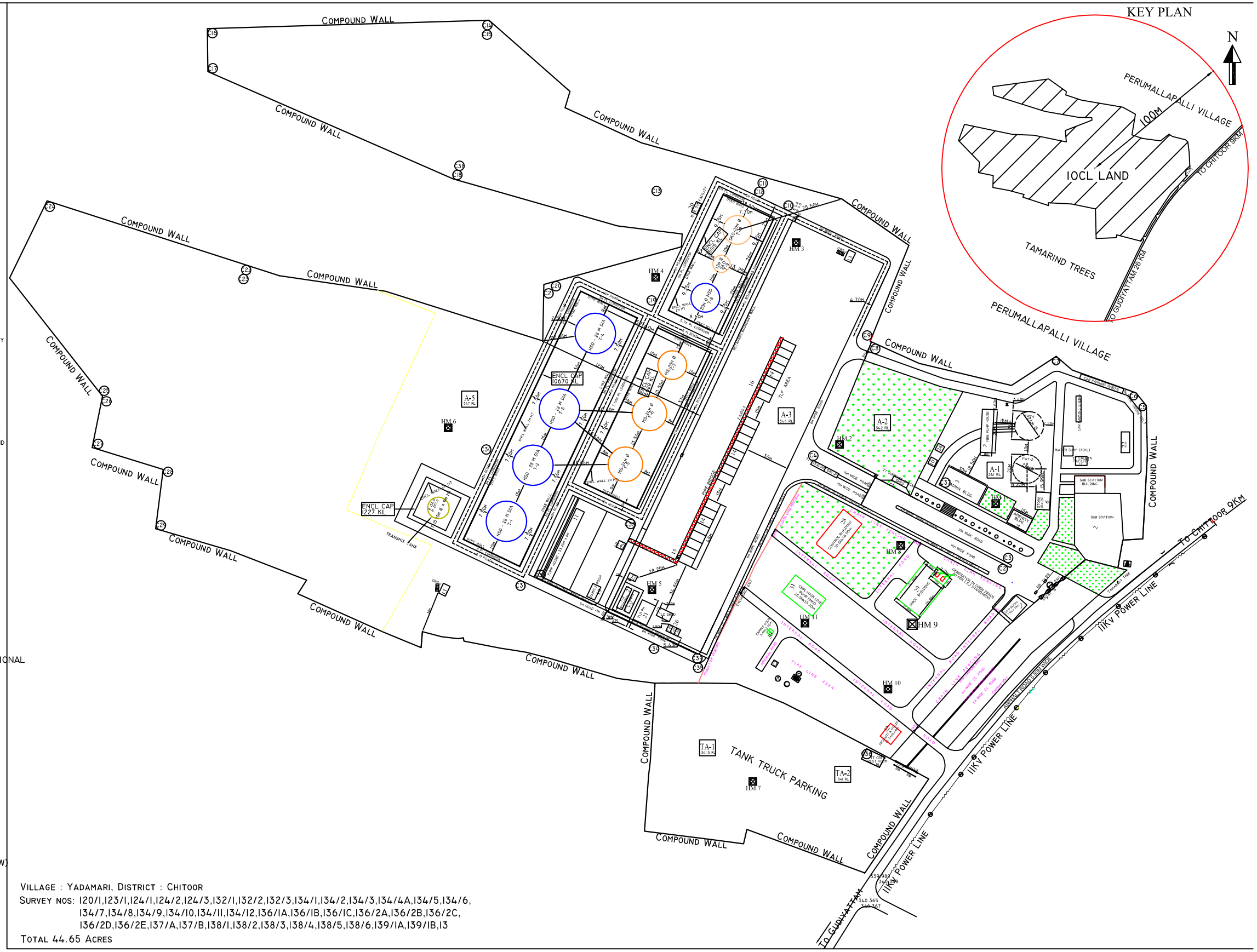
MACHINERY FOR PIPE LINE SIDE

S.No.	DESCRIPTION
A	TRANSMIX PUMP
B	SUMP PUMP
C	RECIPROCATING PUMP
D	OIL WATER SEPARATOR



INTERNAL FLOATING ROOF TANK (SECTIONAL VIEW)

CONE ROOF TANK (SECTIONAL VIEW)



VILLAGE : YADAMARI, DISTRICT : CHITOOR

SURVEY NOS: 120/1,123/1,124/1,124/2,124/3,132/1,132/2,132/3,134/1,134/2,134/3,134/4A,134/5,134/6, 134/7,134/8,134/9,134/10,134/11,134/12,136/1A,136/1B,136/1C,136/2A,136/2B,136/2C, 136/2D,136/2E,137/A,137/B,138/1,138/2,138/3,138/4,138/5,138/6,139/1A,139/1B,13

TOTAL 44.65 ACRES

REV. NO.	DATE	DESCRIPTION	APPROVED
R2	08.09.2012	POSITION HM TOWER,CCTV CAMERAS, ACCESS CONTROL DEVICES INCLUDED	RG/ DGM(PJ)
R1	08.09.2012	POSITION OF ETHANOL TANKS CHANGED, TLD PH SHOWN, TLD PF REALIGNED, TANK FARM REALIGNED.	RG/ DGM(PJ)

REVISIONS

INDIANOIL CORPORATION LIMITED
MARKETING DIVISION

APPROVED		GENERAL LAYOUT PLAN FOR CHITTOOR TERMINAL
CHECKED		
DRAWN		SCALE:-- 1:1000
DATE – 08/09/2012		DRG. NO. = –