

DEPPL

**Darveshi
Engineering
Projects Pvt. Ltd.**

Process Optimization for Profit Maximization

**Engineering Research & Development
Consultant**

Company Portfolio

- DEPPL is primarily functions as a Process Engineering Consultant in Hydrocarbons Sector.
- We are specialized in:
 - **Process Simulation and Optimization.**
 - **Basic & Detail Engineering Packages.**
 - **Pre–Bid and Post –Bid Engineering to reduce risk of EPC Contractors.**
 - **HAZOP, HAZID, SIL,QRA review.**
 - **Approvals from Consultants .**
 - **PMC services. Skilled Manpower Supply, Owners Engineer.**



Portfolio & Services

Process Engineering Services

- | | |
|---|--|
| <ul style="list-style-type: none">• Steady State Simulation.• Dynamic Simulation.• Heat & Mass Balance.• Hydraulic calculations.• Process Design Basis.• PFD, P&ID, Datasheets Development & review.• Process Equipment design (Columns ,Heat Exchangers, Vessels, Tanks, Compressors). | <ul style="list-style-type: none">• Evaluate Process Guarantees parameters.• Operating and Control Philosophies (Relief, Drain, Equipment Isolation).• Operating and Control Manuals.• Pre-commissioning, Commissioning manuals.• HAZOP, SIL, QRA assistance.• Process Study. |
|---|--|

Portfolio & Services

Instrumentation & Electrical :

- Field Instrumentation design & verification
- Instrumentation Control and design
- Cause and Effect
- Inspection Services
- FAT/SAT commissioning
- Control loop design & DCS architecture
- HAZOP/ SIL support.
- SLD
- Electrical system design

Civil and Architectural Engineering Services:

- Structural & foundation Design
- Dynamic structural analysis
- Feasibility studies
- Tendering & TBE support
- 2D Drafting & 3D Modeling
- BOQ preparation & validation
- Adequacy check.

Portfolio & Services

Mechanical Engineering:

- FEA, CFD Analysis
- Mechanical Design & analysis of static and rotary equipments.
- Detailed Engineering of static equipment & preparation of Detailed Fabrication Drawings.
- Package specifications.
- Inspection Services

Piping Engineering:

- Detailed study, review, of Piping documents
- Isometrics, Stress analysis , as-built drawings.
- Documents Compliance check as per International codes & standards
- Plant & equipment Layout.
- 3D Modeling, Piping MTO.
- As Built drawings.

Portfolio & Services

Project Management:

- Project Planning, progress monitoring & Control.
- Project progress reports, and Project Progress debottleneck.
- Vendor Co-ordination & Inspection assistance.
- Co-ordination with external agencies for approvals.
- Site Supervision.

Technology Consulting:

- Subject Matter Expertise
- Reviewing Engineering Packages
- Optimization studies & consulting for Techno commercial evaluation.
- Coordination & assistance in achieving process guarantee parameters for new technologies.

List Of Engineering software's proficiency:

Process

- ChemCAD
- ASPENONE – Hysis SUITE (V11)
- Pipe Flo
- Pipe phase
- SPPID
- Pipenet
- DWSim

Civil

- STAAD Pro V8i
- STAAD(X) tower V8i
- STRAP
- TEKLA 18
- Frame Works
- Microstation
- AutoCAD

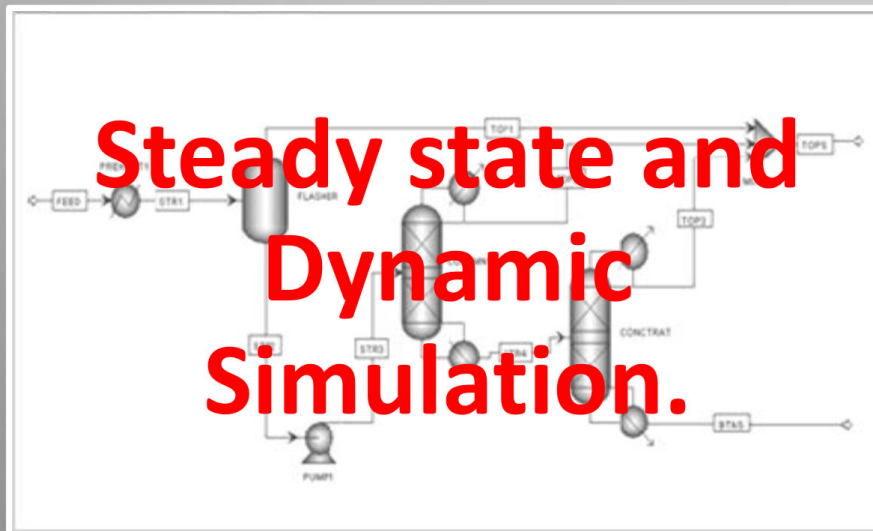
Mechanical & Piping

- PV Elite
- Pump Flo
- FREESHP
- Caesar II
- PDS
- PDMS
- SP3D

E&I

- Etab
- IN tools
- Instrucal

Projects overview : Services Sector



LPG Import Terminal Augmentation



- *Type* : Brownfield/ FEED
- *Client* : BPCL (Uran)
- *DEPPL's Partner* : Firecon , Kolkata
- *Scope*
 - Revamping and expanding (0.3 MMTPA to 1.1 MMTPA) the Cryogenic LPG importing, and storage facility to propane and Butane importing facility. Replacing the existing LPG sphere storage vessels with MSV's (Mounded bullets).
 - Modifications in Truck and Rail Loading Gantry.
- *Services*
 - Process Engineering expertise for Cryogenic .
 - Year 2015 (Under Execution)



LPG Bottling plant

- *Type* : Brownfield
- *Client* : BPCL (Pune)
- *DEPPL's Partner* : Firecon Consultants
- *Scope*
 - Converting the Gantry Unloading bays of tank trucks into Loading bays and complete automation of the system. Related changes in existing storage and transfer system pertaining to instrumentation, control and flow. Expansion of LPG Bottling Plant.
- *Services*
 - Process Engineering expertise.
 - Year 2015 (Under Execution)



Core Design For LPG- NG



- *Type*: Concept/ Basic Engineering
- *Client* : Unilever
- *Partner* : Larsen &Toubro Technology Services
- *Scope*
 - Designing LPG and Natural Gas storage & Handling system by comparing various international codes and standards, which will be standardized and globally referred for all the projects of Unilever.
 - Qualitative Risk Analysis and Hazop study.
- *Services*
 - Process and Project management expertise.
 - Year 2014-15 , Project Completed.

FMCG plant design (Home Care, Personal Care, Food)



- *Type* : Concept, FEED, DED
- *Client* : Unilever
- *Partner* : Larsen &Toubro Technology Services
- *DEPPL's Scope*
 - Engineering design of Home care powder, Personal care soap, and food product plants as per governing standards and GMP's. Mineral Oil Handling.
 - Risk Analysis and Hazop Study.
- *Services*
 - Process and Project management services.
 - Year 2014-15, Project Completed.

Civil Structural Analysis

- *Type* : *Dynamic Structural Analysis . Simulation & validation*
- *Client* : Cumberland Electrochemical Ltd. ,UK
- *Scope*
 - Structural Stability Design Calculations using STAAD.Pro™ design software for Eight number various skid mounted structures. Dynamic Analysis and Anchor Bolt design.
- *Services*
 - Civil Engineering design & simulation

Crude oil Manifold Installation Project

- *Type* : Brownfield
- *Client* : Eni-Iraq (ZFOD)
- *DEPPL's partner* : Jayathe Petrochem Engineering Consultant, Kochi.
- *DEPPL's cope*
 - Detailed engineering for (6+4) (ANSI 900# rating) Crude oil manifold installation & inter connecting piping with existing Intermediate Process Facilities.
- *Services*
 - Process engineering expertise.
 - Year 2013-14, Project Completed.



Takreer refinery Spent Caustic Treatment Plant

- *Type:* Detail Engineering and Project Management For Spent Caustic Treatment Plant using Merichem (USA) technology.

- *Scope:*

Project Management Assistance (PMA) services for Process, Instruments, Electricals, Mechanical and Piping , Site Supervision, Project Control.

Owner's Engineers

- *Client:* TAKREER Refinery ADNOC group of Company.
- Year 2014 : Project Completed. Project cost USD \$27 millions.



Bitumen Cross Country Pipeline from Jetty to Tank Farm

- *Type:* Detail Feasibility Report for Cross Country Pipeline
- *DEPPL's Partner :* Global Archer
- *Client:* Hindustan Petroleum Corporation Ltd., Mumbai
- **Scope:**
 - DFR for Bitumen Loading / Unloading pigable pipeline from Jetty to Tank farm and vice versa.
- **Services:**
 - Hydraulic Calculations , Heat Loss Calculations.
 - Pipeline specifications .
 - Instrumentation and Valves specifications.
 - Surge Analysis , Pump Specifications
 - Process and Instrumentation data sheet
 - Piping GA and Layout
 - HAZOP study for cross country pipeline
- **Status:** Project is under Execution.

Crude Oil Central Processing Facility

- *Type:* Brownfield
- *Client:* Greater Nile Petroleum Operating Company (Sudan)
- *DEPPL's Partner:*
Jayathe Petrotech (Kochi)
- *DEPPL's Scope:*
 - Conversion of existing Crude Field Process Facilities to Central Processing Facilities.
- *Services:*
 - Basic & Detailed Engineering
 - Year 2012-13 , Project Completed.



Debottleneck Existing Flare System Problems.

- *Type:* Brownfield
- *Client:* SABIC , Saudi Arabia
- *DEPPL's Partner:* TCE , India
- *Scope:*
 - Site survey , Analyze why Flare is putting off during process plant upset conditions and suggest changes . Study Flare Load Summary . Simulate worst case scenario.
- *Services:*
 - Specialist Engineering Services for Adequacy Check of Flare System and FEED Engineering .
- Engineering Completed Yr.2017 . Project execution underway.



Modeling and Debottleneck Existing Fire Water Network .

- *Client:* LyondellBasel
- *Scope:*
 - Hydraulic modeling of existing Fire Water network of Petrochemical Complex and Refinery.
- *Services:*
 - Specialist Engineering Services for Simulation using AFT-Impulse.
 - Identify design and operational constraint in worst Fire case scenario and suggest modifications in the Fire Water Network.
 - Fire Water Piping network of total Refinery and Petrochemical Complex.

Surge Analysis for Cross country pipeline.

- *Type:* Brownfield
- *Client:* SABIC
- *DEPPL's Partner:* Core Engineering, Saudi Arabia.
License no. 1047
- *Scope:*
 - Surge Analysis of 16 KM DEG pipeline from SHARQ to SABTABK area.
- *Services:*
 - Surge Analysis using Hysis Dynamic and Report changes required to mitigate the surge.
 - Validate design conditions.
- *Status:* Simulation completed report submitted for implementation.

Basic and Detail Engineering for National Aerosol Facilities for BARC.

- *Type* : Green Field. Concept to commissioning
- *Client* : BARC
- *Scope* :
 - Develop Scheme and design pilot plant from concept note.
- *Services* :
 - Basic Engineering , Detail Engineering and Procurement Services.
 - Tender Preparation for LSTK contractor. All tender specifications.
 - System design consist of Plasma Torch, Mixing vessels, Boilers, Air Compressors, PLC, HEPA Filters, Gas Scrubber, Metal Powder Handling, Test Section, Heater ,Cooler and Chiller section.



Check the Adequacy of Existing flare for the process modifications.

- *Type:* Brownfield
- *DEPPL's Partner :* Tecnoconsult , Abudhabi
- *Client :* ADCO , Abudhabi
- *Scope:*
 - Adequacy of Existing flare stack system for the modifications done in process plant using Aspen Flarenet software.
- Status: Simulation completed and Adequacy Check report submitted for implementation.
- Yr. 2016

Effluent Treatment Plant

- *Type:* ETP Modernization. Brownfield.
- *DEPPL's Partner :* RP Engineers
- LSTK Contractor : Newton Engineering
- *Client :* ONGC , Uran
- *Scope:*
 - Support LSTK contractor for Process Engineering deliverables for modifications in Existing ETP plant.
 - Prepare H & M Balance , PFD , P & I D's, Data Sheet , Specifications, Hydraulic Calculations, Equipment Sizing of ETP Plant capacity 415 m³/hr

Rate Contract for Civil and Architectural Consultancy for BPCL Mumbai Refinery projects

- *Refinery Main Gate Design Review*
- *Watch Towers Design for Upcoming Petrochemical Complex.*
- *Boundary wall Design for upcoming Petrochemical Complex,*
- *Project office / Admin Building interior design support*
- *Lightening Protection Design Review for Hydrocarbon storage tanks.*
- *Oil skimmer design review and drawings*
- *Owner's Engineers*
- *Ongoing contract: Yr. 2019*

QRA , HAZOP and SIL Study

- Hazop Study for Home Care Liquid and Solids Products, Soap Manufacturing facilities.
- Hazop study for Food Processing Plants.
- Hazop Study for PSV Modification projects in Oil and Gas Treatment facilities.
- Hazop Study for Hazel Chemical Terminal Process Facilities. Distillation facilities.
- Hazop and SIL study for Jetty Unloading and Multi product cross country Pipeline and Storage Terminal for RIL and GCTP
- Hazop Study for Cryogenic Unloading, Storage, Vaporization , Waste Heat Recovery System.
- QRA study and Dispersion Analysis for Hazardous Chemicals unloading , storage and dispatch.
- Hazop study for Bitumen unloading / loading and cross country Pipeline.

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VISIT OUR WEBSITE : [HTTP://WWW.DEPPL.IN](http://www.deppl.in)

THANK YOU