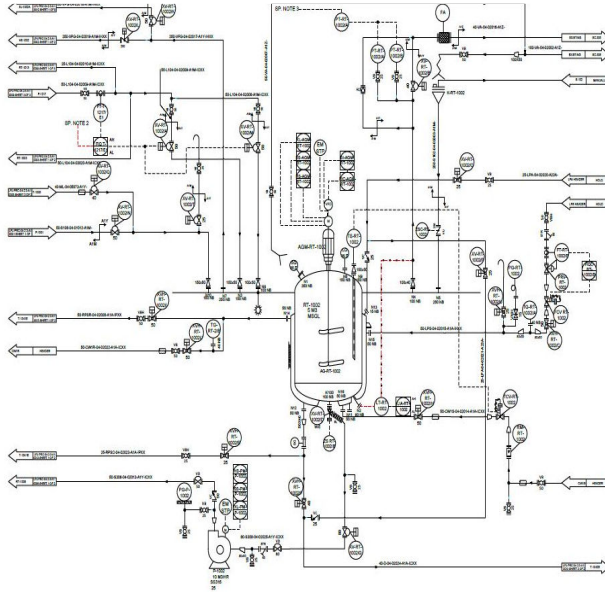




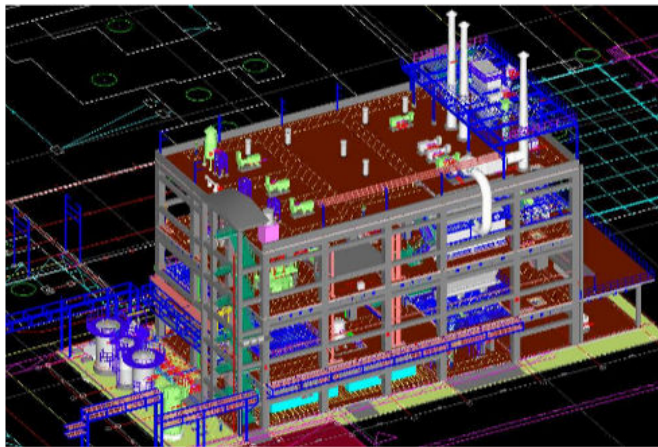
## DETAIL ENGINEERING

### (1) PROCESS ENGINEERING WITH INTELLIGENT P&ID



- We provide complete Process Engineering for all types of Chemical, Oil and Natural Gas, Petrochemical, Food, Pharmaceutical, Paint, Pulp & Paper and Industrial Projects.
- We use intelligent P&ID software which is integrated with every aspect of Detail Engineering.
- This helps in quick and intuitive P&ID creation.
- The P&ID can be effortlessly published so that they can be viewed using various platforms.
- Revision marking and tracking of P&ID is extremely easy.
- Smart PDF booklet is generated which contains all the deliverables.
- Process Datasheets are generated with the help of software which has bi-directional connectivity to P&ID
- P&ID has a bi-directional connectivity with Electrical and Instrumentation Engineering

### (2) 3D MODELING

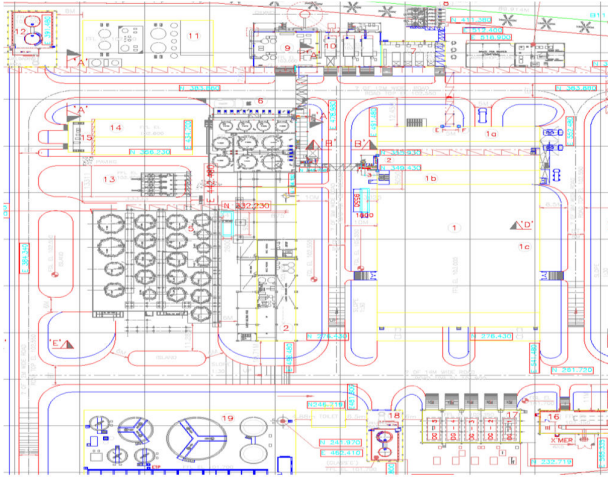


- 3D Modelling provides a realistic and efficient output within a short amount of time.
- Flexibility and ability to change design or angles with quicker rendering of the changes.
- Ease of rendering, automatic calculation and rendering photorealistic effects rather than mentally visualizing or estimating.
- Accurate photorealism, less chance of human error in Layout and detection of fouling or incorrect placement of equipment as soon as they are designed.
- You can review the 3D model and can suggest any changes or other requirements that can be incorporated before the construction starts.
- We use high end 3D Modelling Software
- Walkthrough Model enables viewing of all technical and ergonomic details of the plant.



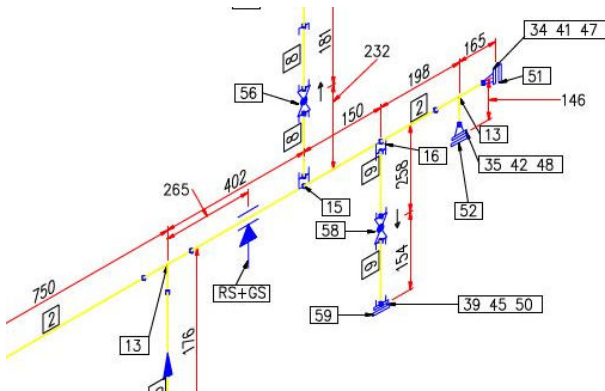
### (3) PLOT PLAN & LAYOUT, PIPING ENGINEERING & STRESS ANALYSIS

#### PLOT PLAN AND LAYOUT ENGINEERING



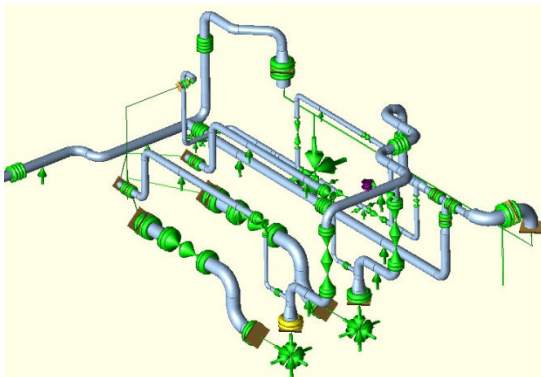
- We have expertise in development of Plot Plan which aims to improve efficiency by arranging units/equipment as per its function with man and material movement.
- We maximize plant productivity and develop a Plot Plan to eliminate waste in material flows, inventory handling and management.
- Based on Layout Design, scaled 3D model is developed.
- Equipment Layout is interlinked with 3D Model. Plan and Elevation are auto generated.

#### PIPING ENGINEERING



- We provide excellent Piping Engineering services for all Process Industries.
- We have an experience of more than 20 years in this area of work.
- As all Piping is developed in 3D models it enables checking of actual Pipe Routing.
- With use of advance software Piping Isometrics are extracted directly from 3D Model which assists fabrication.

#### STRESS ENGINEERING

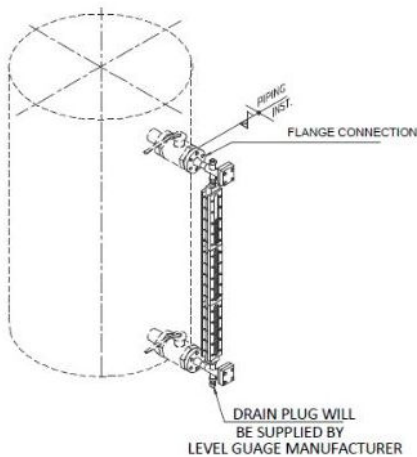
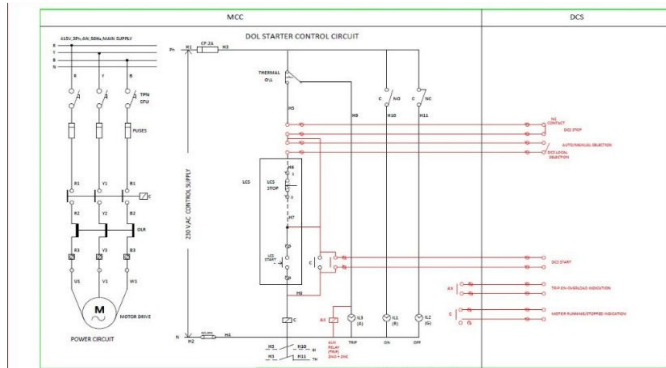


- We provide Piping Stress Analysis for Process and Power Piping.
- Our stress team is powerful with more than 10 years of experience.
- We have experience of Analysis of various critical lines up to 750°C





(5) ELECTRICAL AND INSTRUMENTATION ENGINEERING



(6) PROJECT MANAGEMENT

CLIENT : XXXX  
BEST EFFORT PLANNING

Sl. No	Task Name	Start	End	Duration	Progress	Resources
1	DETAIL ENGINEERING FOR XXXX	15-Nov-16	15-Nov-16	1	100%	
2	Task 1: Detail Engineering for MCC	15-Nov-16	15-Nov-16	1	100%	
3	Task 2: Detail Engineering for DCS	15-Nov-16	15-Nov-16	1	100%	
4	Task 3: Detail Engineering for Instrumentation	15-Nov-16	15-Nov-16	1	100%	
5	Task 4: Detail Engineering for P&ID	15-Nov-16	15-Nov-16	1	100%	
6	Task 5: Detail Engineering for Electrical	15-Nov-16	15-Nov-16	1	100%	
7	Task 6: Detail Engineering for Mechanical	15-Nov-16	15-Nov-16	1	100%	
8	Task 7: Detail Engineering for Civil	15-Nov-16	15-Nov-16	1	100%	
9	Task 8: Detail Engineering for Safety	15-Nov-16	15-Nov-16	1	100%	
10	Task 9: Detail Engineering for Commissioning	15-Nov-16	15-Nov-16	1	100%	
11	Task 10: Detail Engineering for Handover	15-Nov-16	15-Nov-16	1	100%	
12	Task 11: Detail Engineering for Closeout	15-Nov-16	15-Nov-16	1	100%	
13	Task 12: Detail Engineering for Final Report	15-Nov-16	15-Nov-16	1	100%	
14	Task 13: Detail Engineering for Project Closeout	15-Nov-16	15-Nov-16	1	100%	
15	Task 14: Detail Engineering for Project Review	15-Nov-16	15-Nov-16	1	100%	
16	Task 15: Detail Engineering for Project Archiving	15-Nov-16	15-Nov-16	1	100%	
17	Task 16: Detail Engineering for Project Evaluation	15-Nov-16	15-Nov-16	1	100%	
18	Task 17: Detail Engineering for Project Feedback	15-Nov-16	15-Nov-16	1	100%	
19	Task 18: Detail Engineering for Project Improvement	15-Nov-16	15-Nov-16	1	100%	
20	Task 19: Detail Engineering for Project Success	15-Nov-16	15-Nov-16	1	100%	
21	Task 20: Detail Engineering for Project Completion	15-Nov-16	15-Nov-16	1	100%	

STATUS: as on Wed Nov 23, '16  
Sheet 11 of 11  
Rev No. - 00

- We have a highly skilled team to design the best electrical and instrumentation requirements of any project.
- Preparation of Engineering Deliverables are done with the help of intelligent software which has bi-directional connectivity with P&ID.
- Preparation of Electrical Detailed Engineering deliverables as follows but not limited to Load List, SLD, Control Schematics, Cable Schedule, Cable Tray Layout, Lighting Layout, Earthing & Lightning Protection Layout, Electrical BOQ, etc.
- Preparation of Instrumentation Detailed Engineering deliverables as follows but not limited to Instrument List, I/O List, Interlock & Functional Logic Diagrams, Specs preparation, Preparation of Cable Schedule, Junction Box Schedule, Control Room Layout, Pneumatic Hook-ups, Piping/Instrument Hook-ups, Preparation of MCC DCS interface, Instrument Power Supply and Distribution, Trip and Alarm Schedules, Control System Configuration Diagram, Cable Tray Layout, Instrument Location Layout, Loop Diagrams, etc.

- We Offer excellent Project Management and Construction Management services.
- We have the discipline of Planning, Organizing, Directing and Controlling a Project from start to finish achieving specific goals.
- Our team is ever ready and able to handle all kinds of circumstances in any conditions.
- Our Project Management Team clearly defines Project Conception and Initiation, Project Definition and Planning, Project Launch or Execution, Project Performance and Control with Project Closing by MS Projects & S Curve.



