#### **1. Process**

Process Lead	<ul> <li>Process Flow Diagram (PFD); Basic Piping &amp; Instrumentation Diagram (P&amp;ID)</li> <li>Process Calculations; Equipment sizing calculations</li> <li>Mass and water balance; Heat and Energy balance</li> <li>Equipment list; Equipment specifications and datasheets</li> <li>Utility requirements / Design basis reports</li> <li>Equipment / facilities / building layouts &amp; General Arrangement Drawings</li> <li>Basic Engineering and Detailed Engineering related to process and technologies.</li> <li>Process control requirements.</li> <li>Preparation of Technical specification, vendor offer review and vendor offer technical evaluation report for various bid packages.</li> <li>To interface with the Client / core technology supplier / process licensor / critical process equipment Supplier (OEMs) to map the battery limits for various disciplines like utilities, MEP, civil, structural, architectural etc.</li> <li>To compare various technologies available in the market and select the optimum technology from the viewpoint of CAPEX / OPEX considerations &amp; value engineering</li> </ul>
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## 2. Mechanical

	Preparation of Single line diagram and Load calculations
	• Ability to read and understand the design and construction drawings and generate Estimations (BOQ, BOM).
	<ul> <li>Should have experience in drafting of relevant discipline for all types of layouts and details.</li> </ul>
	Preparation of Transformer & DG yards.
Lead -MEPF	Ability to read and understand specifications and various Codes and standards.
	Preparations of IT & Security layout.
	<ul> <li>Ability to read and understand contract drawings from Architectural, Structural, and MEP disciplines.</li> </ul>

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	• Candidates should be able to carry out pump head and static pressure calculations.
	Should be aware of HAVC equipment selection.
	• Should have knowledge of designing of ducting, piping and HVAC controls.
	• Should be capable of coordinating with other services and preparation of HVAC Tender.
	Should be well aware of current pharma, ASHRAE, SMACNA, ISO & Clean room guidelines.
	• HVAC design work based on standard company procedure / other procedures. Timely completion of design and engineering deliverables.
	Adherence to Dept. /Discipline Working Instructions and Quality Systems.
	Overview of work progress and work-hour usage.
	• Ability to read and understand contract drawings from Architectural, Structural, and MEP disciplines.
	Preparation of schematic drawing and UGT & STP
	Preparation of sprinkler layout, pump room details.
	Ability to read and understand specifications and various Codes and standards.
	• Firefighting design as per NBC, NFPA, BIS
	<ul> <li>Shall have hands on experience in Industrial or Buildings projects like Building, Hotels, Commercial, Minerals and Metals, Ports, Power, Oil &amp; Gas &amp; Hydrocarbon plants, Pharmaceutical, Chemical and Food Industry.</li> </ul>
	Shall have thorough Engineering knowledge of industry/international
	standards and ability to interpret the provisions for specific applications.
	Must be fully conversant with ASHRAE, and other HVAC industrial standards.
Sr. Engineer -HVAC	• Responsible for, preparation, review and finalized Engineering Design & Deliverables to meet the project requirements.
	<ul> <li>Responsible for preparation of FEED/Detailed Design Engineering includes Design Basis preparation, Cooling load calculations, preparation of HVAC equipment datasheets, HVAC system specifications, Develop bid documents with all supporting information.</li> </ul>
	<ul> <li>Responsible for constructability review for implementation of the proposed design.</li> <li>Guide and supervise the designer for finalizing the deliverables / drawings and deliver it with quality and given timeline.</li> </ul>
	<ul> <li>Can review Vendor drawings and interact with Vendors in finalizing their design.</li> <li>Can evaluate technical bids and prepare bid analysis report along with the technical</li> </ul>
	<ul> <li>recommendations.</li> <li>Coordinate with other Engineering disciplines including Process, Architectural Civil, Electrical, Mechanical to ensure seamless integration among various interfaces.</li> </ul>
	Good command in English and communication skills.
	• Participate in review meetings and align the action items for it's closure, thrash the

Sr. Engineer PLUMBING & FIRE	<ul> <li>Responsible for Conceptualizing, Selection of technology, Sizing and Design calculations of Plumbing, Fire Protection system, Portable and wastewater,</li> <li>Responsible for calculation project Water demand estimation, Pump Head calculation, Pipe Sizing, STP sizing, Tank sizing, Pipe and hardware sizing Infra services sizing etc.,</li> <li>Responsible for project design from concept to GFC.</li> <li>Responsible to prepare Space planning drawings in 2D &amp; able to review the same in 3D Model like Rivet BIM.</li> <li>Designing of Building Plumbing and Rainwater harvesting system, Active and Passive Fire Protection System, Water storage tank design, Pump House Design, WTP, STP and Solid waste management.</li> <li>Coordination level understanding of other services such as HVAC, Electrical, PA SYSTEM, CCTV SYSTEM, BMS SYSTEM, COMMUNICATION SYSTEM, ETC.</li> <li>Review and approval of contractor's shop drawings and material submittals.</li> <li>Document preparation for Authority submission</li> <li>Attending site Meetings and Timely review and response to RFI and queries from Site.</li> <li>Coordination with Commercial and procurement team for cost inputs and tender technical discussions.</li> </ul>

# **3. Piping Engineer**

Sr. Engineer Static & Rotary	<ul> <li>Shall have hands on experience in Industrial projects like Minerals and Metals, Ports, Power, Oil &amp; Gas &amp; Hydrocarbon plants, Pharmaceutical, Chemical and Food Industry.</li> <li>Shall have thorough knowledge of industry/international standards and ability to interpret the provisions for specific applications.</li> <li>Responsible for all engineering activities related to Mechanical – Static / Rotary, shall be able to prepare and finalized the deliverables to issue to Client to meet the project requirements.</li> <li>Responsible for the preparation of FEED/Detailed Design Engineering includes: Design Basis preparation for compressor, pumps, agitators, fans / blowers, turbines, vacuum pumps and various type of valves as per Project requirements.</li> <li>Responsible for constructability review for implementation of the proposed design.</li> <li>Can review Vendor drawings and interact with Vendors in finalizing their design.</li> <li>Shall be Client facing and can demonstrate proposed design with all back up considerations.</li> <li>Shall have trouble shooting skill to provide instant solutions to implement at site in case of any inconsistencies.</li> <li>Participate in review meetings and align the action items for it's closure, thrash the constraints to boost project progress.</li> <li>Coordinate with other Engineering disciplines including Process, Architectural Civil,</li> </ul>
	<ul> <li>Coordinate with other Engineering disciplines including Process, Architectural Civil, Electrical, Mechanical to ensure seamless integration among various interfaces</li> </ul>

Sr. Engineer – Piping Design (OR) Sr. Engineer - Piping Design &E3D	<ul> <li>Preparation of Piping Design Basis, Critical Line list, PMS, VMS and MR for piping components.</li> <li>Preparation of various calculations like Pipe Wall thickness calculation.</li> <li>Preparation of MR and Datasheets and VDR for Piping and Piping related components.</li> <li>Responsible for Plan, develops, coordinates and review of general arrangement drawing, Piping Isometrics drawings, Material Take- off, Tie-in Schedule and Nozzle Orientation Drawing and other Pipping Typical Drawings, Support Standards and Support schedule.</li> <li>Preparation of Method statements like Hydrotest, Welding, Coating, Tie-in, Crossing, etc.</li> <li>Knowledge of piping engineering fundamentals in order to perform various job-functions (e.g., design, construction support, design review, etc.).</li> <li>Must have knowledge &amp; work experience in software's like Caesar &amp; 3D model like PDS, PDMS, Plant 3D or any Equivalent Software.</li> <li>Must have Sound Knowledge in International Codes and Standards like B31.3, B31.1, ASME, API standards and OISD standards.</li> </ul>
	departmental policies and procedures, governing the design and installation of equipment in order to provide design and construction support

# 4. Electrical Engineer

Sr. Engineer -Electrical	<ul> <li>Candidate should have experience in design and engineering consultancy on industrial design projects like Metal &amp; mining sector, semiconductor industry, pharmaceutical, chemical, manufacturing, FMCG, capital goods warehouses etc. with the following skill sets:</li> <li>Responsible for electrical MV &amp; LV system design and calculation</li> <li>Shall be able to do basic engineering calculations such as transformer sizing, electrical equipment sizing, cable sizing, lighting calculation, earthing &amp; lightning calculation, etc.</li> <li>Shall be able to conceive single line diagrams, layout drawing for electrical equipment, cabling layout, earthing layout, lighting &amp; lightning protection layout.</li> <li>Able to perform MV and LV power distribution system analysis through load flow, short circuit, motor starting transient analysis etc. with help of ETAP/SKM.</li> <li>Can prepare concept notes / design basis, technical enquiry document, electrical load list, technical specifications, hazardous area classification drawings, cable schedule, bill of materials etc.</li> <li>Should be well versed and be able to work on drawings using 2D CAD (AutoCAD). Knowledge of other tools like BIM, PDMS or SP3D will be added advantage.</li> <li>Responsible for preparation of SLD, Load list, Electrical Equipment sizing, ELV design &amp; drafting, space planning for substation, DG Yard, shaft, Electrical room, ELV room, Load calculations, cable routing, breakers sizes &amp; cables etc. to complete the requirements of Industrial and Process Plants, Buildings, commercial, residential, resorts, hotel , Interior office spaces, Hospitals, malls,</li> </ul>
	warehouse etc
	<ul> <li>Manage the team of Electrical Engineers, Modelers and CAD Designers for project deliveries.</li> <li>Perform conceptual, basic and detail design, development of layout, design basis report,</li> </ul>

## 5. Instrumentation

LEAD INSTRUMENTATION & AUTOMATION (I&A)	<ul> <li>Shall have hands on experience in Industrial and Buildings projects like Minerals and Metals, Ports, Power, Oil &amp; Gas &amp; Hydrocarbon plants, Pharmaceutical, Chemical and Food Industry.</li> <li>Shall have thorough knowledge of industry/international standards and ability to interpret the provisions for specific applications for Instrumentation and Automation activities to apply in Greenfield and Brownfield projects.</li> <li>Shall be conversant with and work with AutoCAD, IN tools, SMART PLANT P&amp;ID.</li> <li>Responsible for all engineering activities related to Instrumentation &amp; Automation, like preparation of I/O list, instrument hook up diagrams, instrument location &amp; installation drawings, cable engineering to meet the project requirements.</li> <li>Responsible for the preparation of FEED/Detailed Design Engineering includes: Design Basis preparation, preparation of instrument datasheets, specifications, develop bid documents with all supporting information.</li> <li>Responsible to evaluate technical bids and prepare bid analysis report along with the technical recommendations.</li> <li>Able to Perform constructability review for implementation of the proposed design.</li> <li>Can review Vendor drawings and interact with Vendors in finalizing their design.</li> <li>Coordinate with other Engineering disciplines including Process, Architectural</li> </ul>
	<ul> <li>Coordinate with other Engineering disciplines including Process, Architectural Civil, Electrical, Mechanical to ensure seamless integration among various interfaces</li> </ul>

Sr. Engineer INSTRUMENTATION & AUTOMATION(I&A)	<ul> <li>Shall have hands on experience in Industrial and Buildings projects like Minerals and Metals, Ports, Power, Oil &amp; Gas &amp; Hydrocarbon plants, Pharmaceutical, Chemical and Food Industry.</li> <li>Shall have thorough knowledge of industry/international standards and ability to interpret the provisions for specific applications for Instrumentation and Automation activities to apply in Greenfield and Brownfield projects.</li> <li>Shall be conversant with and work with AutoCAD, IN tools, SMART PLANT P&amp;ID.</li> <li>Responsible for all engineering activities related to Instrumentation &amp; Automation, like preparation of I/O list, instrument hook up diagrams, instrument location &amp; installation drawings, cable engineering to meet the project requirements.</li> <li>Responsible for the preparation of FEED/Detailed Design Engineering includes: Design Basis preparation, preparation of instrument datasheets, specifications, develop bid documents with all supporting information.</li> <li>Responsible to evaluate technical bids and prepare bid analysis report along with the technical recommendations.</li> </ul>
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	• Able to Perform constructability review for implementation of the proposed design.
	Can review Vendor drawings and interact with Vendors in finalizing their design.
	Coordinate with other Engineering disciplines including Process, Architectural Civil,
	Electrical, Mechanical to ensure seamless integration among various interfaces

#### 6. Civil & Structures

	<ul> <li>Responsible for Independently perform and review of Design calculations &amp; reports for RCC and steel structures using both computer-aided and manual techniques in line with project schedule.</li> </ul>
	Experience in design of industrial structures like steel plants/ power plants/
LEAD Civil & Structures	hydrocarbon/ chemical/ automobile plants.
	<ul> <li>Having experience in structural design of infrastructure projects like airports, metro, high speed rail, Sewage treatment system, water treatment system, etc will be an added advantage.</li> </ul>
	Be able to lead projects from the inception to the construction including dealing with
	clients, contractors and suppliers.
	Provide engineering inputs to aid in value engineering.
	Having knowledge of quantity estimation during bidding stage of project.
	Resolve design and construction conflicts at the site in real time.
	Organize and plan all civil and structural activities related to project.
	Interdepartmental Coordination and inference check between internal departments.
	Work under the direction of Sr. Manager.
	Ensure construction documents accuracy based on project requirements.
	Collaborate and Coordinate with other disciplines.
	Follow Engineering content standards and development procedures.
	<ul> <li>Ability to work on AutoCAD and other equivalent software for design document preparation.</li> </ul>
	High level of communication and good writing skills.
	Review 3D Models from consultants and contractor.
	Recording the lesson learnt from each project and communication internally with all departments.

	Travelling to client office and project site for model briefing session.
Sr. Engineer Civil & Structures	<ul> <li>Responsible for Independently perform and review of Design calculations &amp; reports for RCC and steel structures using both computer-aided and manual techniques in line with project schedule.</li> <li>Experience in design of industrial structures like steel plants/ power plants/ hydrocarbon/ chemical/ automobile plants.</li> <li>Having experience in structural design of infrastructure projects like airports, metro, high speed rail, Sewage treatment system, water treatment system, etc will be an added advantage.</li> <li>Provide engineering inputs to aid in value engineering.</li> <li>Having knowledge of quantity estimation during bidding stage of project.</li> <li>Resolve design and construction conflicts at the site in real time.</li> <li>Interdepartmental Coordination and inference check between internal departments.</li> <li>Work under direction of Lead engineer.</li> <li>Collaborate and Coordinate with other disciplines.</li> <li>Ability to work on AutoCAD and other equivalent software for design document preparation.</li> <li>Review 3D Models from consultants and contractors.</li> <li>Recording the lesson learnt from each project.</li> </ul>
Engineer Civil & Structures	<ul> <li>Responsible for performing and review of Design calculations &amp; reports for RCC and steel structures using both computer-aided and manual techniques in line with project schedule.</li> <li>Experience in design of industrial structures like steel plants/ power plants/ hydrocarbon/ chemical/ automobile plants.</li> <li>Interdepartmental Coordination and inference check between internal departments.</li> <li>Ability to work on AutoCAD and other equivalent software for design document preparation.</li> <li>Review 3D Models from consultants and contractors.</li> <li>Recording the lesson learnt from each project.</li> </ul>

	<ul> <li>Review drawings and 3D Models from consultants and contractor.</li> <li>Recording points discussed in respective meetings for model and detail engineering.</li> <li>Responsible for model and GFC deliverables inline project schedule.</li> <li>Preparation of BOQ and selection of Materials</li> <li>Tender documentation support</li> <li>Addressing site quires and facilitate construction by applying BIM and CAD technologies in the design phase.</li> <li>Travelling to client office and project site for meetings, workshops and briefing session. Design and develop feasibility and schematic plans, 3D models and presentations for projects.</li> </ul>
CAD DESIGNER & DRAFTSMAN	<ul> <li>Ability to work on AutoCAD and other equivalent software for developing basic arrangement, general arrangement drawings. Construction drawings</li> <li>Able to develop detailed construction drawings of respective discipline</li> <li>Able to prepare plant layout with co-ordinates.</li> <li>Able to manage with layers and well convergent with working in model space as well as layout.</li> <li>Can prepare Material Flow Diagram, Equipment Layout, Integrated arrangement to include requirements of de dusting system, cable trays, firefighting system etc.</li> <li>Can prepare quality drawings by presenting the content appropriately such that it meets the requirements of international drafting standards.</li> <li>Can review and integrate other discipline drawings by superimposing them in respective layout to review and identify interferences.</li> <li>Can work in close coordination with respective Lead Engineer as well as other discipline leads.</li> <li>Can look after site queries raised on the drawings submitted and sort out with optimum solution in time to avoid delay in execution.</li> <li>Can visit site to gather required information for brown field assignment to develop necessary engineering deliverables.</li> <li>Awareness of development of 3D Model.</li> </ul>