



# COMPANY PROFILE



## INTRODUCTION

**Minerva Engineering and Management Consultancy (MEMC)** was incorporated in Chennai, Tamil Nadu-India in September 2010 by a Mechanical Engineer having experience in power, water and oil and gas industry. The promoter has varied experience in utility, industrial, chemical and oil and gas industry and has handled projects from concept to commissioning. The promoter has experience of working in India and abroad and has gained experience of executing international projects.

In the year 2014 he was joined by another Mechanical Engineer specialised in Thermal Power Plants ranging from super critical power plants to gas turbine based combined cycle power plants. He also has rich experience in power plant configuration simulation, detail engineering and project management for various Indian and International Clients.

The company is also supported by team of experienced professionals in the field of Mechanical, Civil, Electrical, Control and Instrumentation Engineering either on full time or part time basis. MEMC offers value addition to Clients through a pool of experts who bring international expertise at competitive rates.

The company is registered under the Department of Industries and Commerce (Government of Tamil Nadu) and also has a valid Service Tax Registration.

*Our mission: "Providing excellent technical services to the clients ethically and being environmentally friendly in all the activities we perform".*

## SERVICES OFFERED

### BASIC AND SYSTEM ENGINEERING

- Feasibility studies for power plants (coal, gas and oil based)
- Feasibility studies for water production plants (thermal and RO based water production plants)
- Detailed project reports for power and water plants

### ENGINEERING SERVICES

- Project development engineering support
- Pre-bid engineering support
- Tender document preparation
- Specification preparation
- Tender and offer evaluation and adjudication
- Detail engineering for mechanical, electrical, I&C and civil works related to power, water and oil and gas projects
  - P&IDs, Equipment layout and piping works including isometrics and bill of quantities
  - Civil foundation, equipment foundation, structural calculations, structural fabrication drawings and bill of materials
  - Single line diagrams, cable layouts, equipment layouts, sizing calculations, fault level calculations, load list and bill of materials
  - Control logic diagrams, control configuration drawings, cable layouts, hook up diagrams, instrument list and bill of quantities
- Design review of the engineering documents produced by the contractors
- Review and approval of the project quality plans
- Drafting services



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## PROJECT MANAGEMENT AND GENERAL ENGINEERING SERVICES

- Overall project management services
- Project progress and schedule monitoring services
- Progress reporting services
- Technical advisory services to lenders
- Undertake desk top residual life assessment studies for power generation and water production plants
- Inspection and expediting services for equipment/components used in oil & gas, power and water industry

## PROFILE OF THE KEY STAFF

### VENKATESH RAMACHANDRAN- Partner

#### Responsibility: CCGT and Desalination Engineering

- A Mechanical Engineer with over 23 years of cross-cultural experience in the areas of Project Management and Design Engineering.
- Currently owning Engineering Consultancy, Mechanical Fabrication Unit and Property Development Company in Chennai, India.
- Hands on experience in detailed engineering and project management of large power (CCGT and other) and desalination (thermal, hybrid and reverse osmosis) plants together with proven abilities in maintaining balance of plant and water treatment / sewage.
- Gained basic and detailed design knowledge thorough project assignments and on site in the Middle East in the power generation and desalination industry.
- Expertise in conducting design reviews / feasibility studies / plant life assessment studies, witnessing performance tests, preparing tender documents and handling site management assignments in the region.
- Capable of conducting power generation requirement assessment, market survey, generation option assessment (including renewable energy) and site visits.
- Have the ability to oversee project activities from conceptualization to execution including technical specifications, stage inspections, progress monitoring, site management and manpower planning.
- Ability to manage larger size projects and tasks with changing priorities and tight deadlines. Excellent relationship management, analytical and negotiation skills with deftness in swiftly ramping up projects in co-ordination with clients, contractors, vendors and consultants.

Venkatesh currently owns an engineering consultancy, a fabrication unit and a property development company. Prior to promoting his own companies he had worked for a decade in Abu Dhabi, UAE at various Multinationals namely CH2MHILL, Parsons Brinckerhoff and Mott MacDonald.

He has also worked in India with Fichtner Consulting Engineers, a renowned power plant consultancy and started his career in RJ Associates, a chemical plant engineering consultancy firm, in the year 1991.

### GAJAPATHY MATHANABASKARAN- Partner (from August 2014)

#### Responsibility- Thermal Power and BOP Engineering

- A Mechanical Engineer with over 21 years of cross-cultural experience in the areas of Basic Engineering, Design Engineering, and Project Management.
- Thermodynamic modelling specialist in optimizing thermodynamic cycle analysis for sub-critical, supercritical and combined cycle plants. Familiar with GT Pro/Steam Pro and Gate Cycle.



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- Preparation of techno-economic feasibility studies and detailed project reports for subcritical, supercritical and combined cycle plants, involving site selection, investigation of basic infrastructure facilities availability, development of overall layout and equipment layouts, etc.
- Basic Engineering activities such as preparation of Heat and Mass Balance Diagram, Process Flow Diagram, P&I Diagram, Pipe Sizing, Pressure Drop Calculations, Statutory Clearance Documents, Piping and Valve Schedule including Bill of Quantities (BOQ), Equipment List, Electrical Load List, Process Input for Control and Instrumentation System, Chimney Sizing, etc.,
- Detailed Engineering activities such as Preparation of Design Basis Report for Equipment/Systems, Plot Plan and Equipment Layout Drawings, Enquiry / Bid Specification and Evaluation of Bid Documents followed by Vendor Engineering Review for Main Plant Equipment such as Boilers, Turbine, Condensate systems, Auxiliary Systems such as Cooling water systems, Demin Water systems, compressor systems including pumps etc.
- Pre-Bid Engineering Services such as preparation of Scope of Supply/Division of Responsibility, Summary of Tender Specification, Pre-Bid Clarification, Flow Diagrams, Pipe Sizing Calculation, Valve List, Electrical Load List, Utility List, Particular Studies, Deviation/Clarification List, Technical Proposal, Replies to the Client Clarifications, Negotiation with Client and Contract Document.

Gajapathy has worked in reputed engineering consultancy & EPC organisations throughout his career spanning more than 20 years. He started his career at Fichtner Consulting Engineers Chennai and has worked in the following companies Mitsubishi Heavy Industries Japan, Foster Wheeler India Private Limited, and Parsons Brinckerhoff India Private Limited.

## **SUSHEELA K-Head C&I Responsibility-Control and Instrumentation Engineering**

- A Post graduate Mechanical Engineer by qualification and Instrumentation and Controls Engineer by practice with over 30years of cross-cultural experience in the areas of Project Management and Design Engineering.
- Has worked in the petrochemical, Power, Nuclear, Oil and Gas, Infrastructure, Chemical and Pulp and Paper Industries.
- Hands on experience in detailed engineering and project management of large power (Thermal, CCGT and Biomass), Industrial, Infrastructure and Nuclear projects.
- Has undertaken project assignments in the Middle East -PDO-Muscat for Electrowatt and in The Hague , Netherlands for Lummus
- Expertise in conducting design reviews / feasibility studies / witnessing factory Acceptance tests, preparing tender documents, providing technical and purchase recommendations and handling site queries for the projects during execution.
- Capable of conducting power generation requirement assessment, market survey, generation option assessment (including renewable energy) and site visits.
- Have the ability to oversee project activities from conceptualization to execution including technical specifications, stage inspections, interdisciplinary coordination, progress monitoring and manpower and resource planning.
- Has managed large sized projects –Basic and detailed engineering for about INR 40,000million project-Fast Reactor Fuel Cycle facility with stringent contractual clauses and tight deadlines. Good interpersonal, analytical and negotiation skills with ability to mobilise manpower as required at the appropriate time.
- Was the Management Representative for six years and responsible for getting ISO-9000 certificate. Was quality representative in the journey towards Business Excellence Management in one of the organisations.
- Was in-charge of Pre-bid engineering activities of large Infrastructure and Oil and Gas Projects.



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Susheela has worked in reputed engineering consultancy organisations throughout her career spanning more than 30 years. She has started her career at Tata Consulting Engineers at Bangalore and proceeded to work with IDEA, Fichtner Consulting Engineers, TCE-Chennai and Dodsal Engineering and Construction Company.

She has experience in Basic and detailed engineering of Power, petrochemical, Oil and Gas, Infrastructure and Chemical and Industrial projects.

She has been Head of the Department for Control and Instrumentation and for the past many years has been handling Project management activities.

## **C ARUMUGAM -Head Electrical Responsibility-Electrical Engineering**

- A graduate Electrical Engineer with over 20years of cross-cultural experience in the areas of Basic and Detail Engineering of Electrical System.
- Has worked in the Power, Petrochemical, Oil and Gas, Infrastructure projects.
- He was involved in preparation of many feasibility studies and detail project reports for electrical systems
- He has hand on experience in preparation of single line diagrams and control scheme, design calculation for Power & Distribution Transformer sizing, MV/LV Panel switch gear sizing, MV/LV Capacitor, MV/LV Cable sizing, Transformer/Generator NGR Sizing, Earthing calculation to attain safe Step & Touch Potential for over all plant Earthing system, Lightning Protection for Overall Plant, AC/DC Supply system UPS & Battery sizing, Cable Tray sizing, lighting calculation, etc.
- He also has the capability to perform power system study using ETAP Software – load flow study, short circuit study, motor starting analysis (Static), Relay co-ordination & Discrimination study.
- He has prepared Design Basis Report, Technical Specification & Data sheet for Switchgear, Power & Distribution Transformer, MV/LV Cable, LV Panels, LV Bus duct, Local Control Station, VFD drive, MV/LV Capacitor, Cable tray, Earthing Material, Lighting/small power panels, CBS Lighting system, Supply & erection Bill of Quantities for various electrical projects.
- He has the ability to prepare Electrical Load list, MV/LV cable schedule, Control cable schedule, Lighting/ small power / emergency lighting panel board schedule, power & control cable interconnection schedule.
- He had been involved in the preparation of Equipment layout, Lighting, Earthing, Lightning protection layout and Cable routing layout.
- He had performed various Technical Bid Evaluation and Vendor drawing review for the electrical systems

Arumugam had worked in various reputed EPC and engineering companies such as Dodsal, Sterling and Wilson, TTK LIG limited etc. He has sound knowledge on the electrical systems related to power, petrochemical, oil, gas and infrastructure projects.

He had lead the electrical engineering activities for various projects in India and abroad. He has the ability to undertake feasibility studies, design basis reports, design reviews and project management.

## **K.M. VENKATARAMANA (Associate-Civil) Responsibility: Civil & Structural**

- A post graduate Civil & Structural Engineer with over 30 years of cross-cultural experience
- Expertise in design engineering and execution of civil and structural works related to power generation projects and planning and project management activities of infrastructure projects such as power, airport and road sectors.



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- Involved in preparation of feasibility report, detailed projects reports for coal fired and combined cycle power plants
- Handled large size projects start from basic engineering, tendering, bid evaluation, detail engineering, etc.
- Pre-Bid Engineering Services such as preparation of Civil & Structural bill of quantities and cost estimate.

Venkataramana worked in National Thermal Power Corporation Limited, India's largest utility company, reputed engineering consultancy firms, developers, throughout his career spanning more than 30 years. He also worked at GMR and Parsons Brinckerhoff India Private Limited.

## INFRASTRUCTURE

MEMC has employed qualified engineers and drafting personnel to perform process and mechanical related works.

Software:

- ACAD
- IPSEPRO for coal and CCGT plant simulation
- KY pipe for surge analysis
- KY pipe for water network analysis

Other specialised technical software will be hired locally on need basis.

## PROJECTS EXECUTED

Please refer to the experience list.



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