Position Summary:

This position reports to the engineering manager and is responsible for overseeing and performing electrical engineering and related activities associated with TerraTherm projects, including: heater and electrical equipment calculations, electrical equipment specification and design, design and work plan writing and preparation, permitting, cost estimation, equipment procurement and fabrication, system startup, data management and reporting, and system troubleshooting (as required) for TerraTherm. The position will involve direct supervision of staff electrical/controls engineers, technicians, and shop/field electricians. This is primarily an office position with occasional field travel required.

Responsibilities:

Design Engineering:

- Oversee and prepare designs and work plans, from conceptual design through detailed design packages. Primary focus is on the electrical engineering aspect; however, expect involvement in other aspects of the design process. Electrical design tasks may include heater calculations, electrical load calculations, short-circuit and overcurrent protection calculations, transformer and wire sizing, etc. Other typical design aspects may include preparation of well field layout, mechanical equipment and piping layout, piping and instrumentation diagrams.
- Develop electrical equipment and power distribution equipment specifications; prepare electrical load calculations for single and three phase loads; prepare electrical single line drawings, schematics and detail drawings as required.
- Interface with utility companies to secure electrical service and rates for projects and bids. Interface with permitting authorities and electrical subcontractors for electrical construction work.
- Develop equipment schedules and material takeoffs; prepare requests for bids for subcontractors and material vendors. Prepare construction and equipment specifications, including means and methods. Compare bids and recommend the selection of subcontractors and material vendors.
- Assist with instrumentation and control system design. Develop and/or modify PLC configuration programs, ladder logic diagrams, develop specifications and/or QC subcontractor-prepared PLC programs. Develop point-point wiring diagrams and select components for company-built PLC/control panels.
- Perform site visits on new project opportunities to determine the available site power, and utility/facility constraints, collect information regarding construction permits, evaluate potential site support contractors, and assist with preparation of cost estimates.
- Oversee maintenance, testing and repair of company-owned electrical equipment.
- Lead electrical design aspects of company research and development projects.

Field Engineering [As Needed]:

TerraTherm, Inc. – 151 Suffolk Lane, Gardner, MA  01440 – 978-730-1200 – www.terratherm.com – Email hr@terratherm.com
**Senior Electrical Engineer (Project Engineer III)**

**Job Description**

**July 2016**

- Perform the function of field engineer, assistant project manager or assistant construction manager (as required), including hands on field work and/or field engineering, supervision of subcontractors, review of daily work production reports, schedule and budget. Inspect work of company staff and subcontractors. Communicate issues with project manager or construction manager and client as directed by the project manager.
  - Verify that daily production reports are maintained,
  - Perform field QA/QC to ensure construction work is performed in accordance with design specification,
  - Prepare detail drawings and perform fabrication supervision,
  - Keep project manager and client informed on design and performance issues.

- Communicate and coordinate work quality or safety concerns to the TerraTherm project manager, general manager and technology manager as necessary to ensure proper and safe completion of the project.
- Assist the TerraTherm construction supervisor and system operators with equipment commissioning and startup, and operational troubleshooting as necessary. Cover system operator rotations (typically 1 to 2 weeks) when necessary.

**Project Management:**

- Manage tasks as required to ensure work is completed on time and on budget, with a high degree of internal and external client satisfaction.
- Communicate project/task status and issues with project manager, client and/or company management.
- Project management work may include coordination and management of material vendors, subcontractors, and company staff. Task/project management role may grow over time in accordance with company needs.

**Staff Management/Discipline Leadership:**

- Provide direct supervision of staff electrical/controls engineers, technicians, and shop/field electricians.
- Develop and implement staff development and training programs for direct reports. Set annual goals for direct reports and track progress during regular staff check-ins.
- As Electrical/Control Discipline Leader, develop and implement corporate and project-level QA/QC procedures for the Electrical/Control practice area.
- Ensure all TerraTherm designs and installations are consistent with applicable codes, regulations, and standards.
- Conduct annual electrical training programs for staff engineers, construction personnel, and operations staff.

**Additional Responsibilities:**

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Senior Electrical Engineer (Project Engineer III)
Job Description
July 2016

• Demonstrated hands on experience with electro-mechanical and process equipment fabrication, integration, operation and trouble shooting. Ability to work with electrical meters, hand & power tools, and operate of fork lifts (with company-provided training).
• Always look for new and better ways to streamline the cost and performance of thermal remediation projects, capture information, and make overall improvements as learning takes place.
• As directed, develop new methods/equipment in accordance with approved budget and scope.
• Continue to gain knowledge on the remediation of hazardous materials by reading relevant trade journals and related information.
• Travel as necessary to perform position description duties. Expect ~20% travel for periods of 1 to 2 weeks and occasionally up to 4 weeks at one time, based on project work load.

Qualifications:

Experience Required:
• At least 10 years direct engineering experience or 10 years equivalent experience in electrical design/construction industry
• Small / start-up company experience, preferred but not required
• Prefer at least 3 year experience in an remediation technology engineering environment, but not required
• Strong written and verbal communication skills
• Strong computer skills, including proficiency with Microsoft Word, Excel, AutoCAD

Education Required:
• BS or higher Electrical Engineering degree
• Advanced training & experience in electrical power system design & distribution

Certification/Licensing:
• 40 Hr. OSHA HAZWOPER training, and current 8 hr. refresher training (preferred, but not required)
• PE strongly preferred
Skills/Aptitudes:
- Self-starter and outgoing personality traits
- Demonstrated leadership skills
- Ability to take direction and act independently
- Strong communications and organization skills
- Ability to manage multiple priorities and stay organized while doing so

Level of Supervision:
- Work independently based on general instructions, directions or objectives received from Project Manager or Supervisor
- Provide direct supervision to staff engineers, field technicians, and shop personnel