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DAVID C. SLADE, P.E.

Sole Proprietor

Senior Mechanical Engineer/ Project Manager

SUMMARY

Thirty one years engineering and construction experience providing conceptual design studies, detailed design services, project management, construction support, start-up/commissioning services, and contract support for mechanical and process systems.

EDUCATION

- **University of Vermont**, Burlington, Vermont (May 1994)
Bachelor of Science in Mechanical Engineering
- **Franklin Institute of Technology**, Boston, Massachusetts (May 1988)
Associates Degree in Mechanical Engineering

REGISTRATIONS

- Professional Engineer Registered in Vermont (License # 7565) (1999 – Present)
- Professional Engineer Registered in New Hampshire (License # 14390) (2014 – Present)
- Professional Engineer Registered in Ohio (License # 86241) (2020 – Present)
- Professional Engineer Registered in North Carolina (License # 051917) (2021 – Present)
- Professional Engineer Registered in Virginia (License # 064162) (2021 – Present)

PREVIOUS EMPLOYMENT

- Liebert Engineering, Inc., Charlotte, VT (2004 – 2012)
Vice-President
Senior Mechanical Engineer / Project Manager
- UAI Associates, Inc., Williston, VT (1994 – 2004)
Senior Mechanical Engineer / Project Manager

PROFESSIONAL ENGINEERING EXPERIENCE

- Lead Engineer and/or Project Manager on single and multi-discipline projects for institutional, commercial, military, and industrial clients.
- Performed studies including initial site survey, review of Owner requirements, review and analysis of existing conditions, and research on available technologies. Produced reports outlining initial findings, available options, operating & construction cost estimates (including ROI), and recommendations for implementation.
- Conducted ASHRAE level I&II Energy Audits
- Participated in Value Engineering (VE), Hazard and Operability (HAZOP), and Strategic Project Planning workshops to ensure system designs provide the greatest possible value to the Owner while maintaining safe and efficient operating characteristics.
- Development of conceptual design packages to allow clients to establish project approach, determine milestone schedule, develop contracting strategies, solidify budget requirements and to obtain bids for detailed engineering services.

- Development of Owner pre-purchase specifications and drawings for procurement of major equipment and long lead items. In addition to detailing technical requirements, the specification packages typically included bid forms, submittal requirements, schedule, vendor support (start-up/supervision), warranties, and product delivery requirements.
- Development of detailed bidding and construction documents including drawings and specifications that integrate mechanical requirements with architectural, structural, civil, automation, controls, and electrical elements of the system design. Design implementation is engineered to minimize disruption of Owner activities.
- Typical design package deliverables produced included PFDs, P&IDs, equipment layouts, piping/mechanical plans, sections, elevations & details, isometrics piping drawings, instrument data sheets, sequence of operations, alarm/interlock lists, I/O list, instrument loop diagrams, CSI divisional & short form specifications, equipment data sheets, and standard operating procedures.
- 2-D & 3-D CAD, REVIT, Energy modeling, hydraulic and air flow modeling, ASHRAE load calculations.
- Conduct code compliance evaluations and provide support to Owners in the preparation of permit applications.
- Project management for single and multi-discipline projects including proposal development, scheduling, resource planning, budget analysis, scope tracking, change order requests, and project closeout.
- Owner's representative for contracting activities including development of contracting strategies, establishing qualified bidders lists, bidding negotiations, and bid analysis.
- Evaluate Contractor/Vendor change requests against contract documentation for project impact and justification of proposed adjustments to Contract amount.
- Substantial experience performing, tracking, and reporting on submittal reviews, pre-shipment inspections, construction observation, punchlist generation, RFI reconciliation, start-up activities, commissioning & validation support, and operator training.
- Construction Administration experience includes development, execution, processing, and/or tracking of safety plans, Sub-Contractor agreements, purchase orders, schedules, budgets, scopes of work, bidding documents, Sub-Contractor insurance certificates, applications for payment, change order requests, and construction coordination.
- Project Mechanical Engineer for LEED certified Commercial and Institutional projects.

SPECIFIC SYSTEM DESIGN EXPERIENCE

- HVAC and plumbing systems for historic buildings.
- High Purity Water systems for the microelectronics, pharmaceutical, and healthcare industries.
- HVAC systems including chilled water, steam, condensate return, heat pumps, hot water, air handlers, boilers, exhaust systems, energy recovery systems, VRF systems, and space pressurization.
- Ground source (geothermal) heat pump design and analysis.
- Sanitary process piping and equipment systems including 3A, CIP, SIP, COP.
- Compressed gas systems including air compressors, air dryers, nitrogen generation, and breathable air.
- Pollution control systems including fume collection/extraction, regenerative thermal oxidizers (RTO), and dust collection equipment.
- Specialty laboratory design including BSL-2 & BSL-3.
- Commercial Kitchen Ventilation, Plumbing, and Refrigeration.
- Hazardous material storage and handling systems.
- Large scale dry media abrasive blast system with automatic media recovery.
- Potable water treatment and plumbing systems.