

## MECHANICAL ENGINEERING

### JOHN BRODZIAK, PE – Senior Mechanical Engineer

*HODGE Engineering*



**John Brodziak** has a diverse background in Mechanical Engineering. He has spent the majority of his career working in large industrial facilities, everything from nanometer-scaled optics to systems for aircraft carriers. His experiences include facility engineering, project engineering and management of multi-million-dollar capital industrial projects, to system design engineering and management. For the past ten years, he has taken on senior roles in consulting for large industrial clients. He is a subject-matter-expert in medium and high-pressure steam system, pumping stations, liquid and gas industrial piping systems, per ASME B31.1 and B31.3 codes, In addition to his mechanical engineering expertise, he also has a strong background in industrial control system development including PLCs and

Distributed control systems (DCS), with an intuitive understanding of control systems and their connection and interaction with mechanical systems.

*Project Responsibilities: Project management, gathering and analysis of data, feasibility studies, design-team management, team building, project engineering from concept to commissioning, HAZ-OP analysis, root-cause analysis, cost estimating, equipment specifications, functional specification development, construction management, star-up technical check-out, commissioning, and owner representative/ liaison.*

#### **Relevant Experience**

##### **Teledyne Brown Engineering, VAR - Oak Ridge, TN**

- Chilled- water system design to provide cooling for a variable -flow, primary/secondary VAR closed-looped system for optimal temperature control
- Performed calculations and equipment associated with the VAR cooling system

##### **Scapa – Knoxville, TN**

- Worked with client during active production for fast-tracked equipment connections to meet scheduling requirements, maintaining budget, avoiding pauses in production and by collaborating with owner and other disciplines regularly to avoid any miscommunication
- Mechanical designs consisted of vacuum systems, air service to each piece of equipment cell and confirm total equipment compressed air loads to verify total CFM capacity

##### **Materials and Chemistry Lab (MCL), Oak Ridge, TN**

- Complete HVAC design for 29,00sf for offices and high tech laboratory spaces Ventilation for laboratory test hoods

##### **Kawasaki Tennessee – Morristown, TN**

- Design, process water cooling system aluminum casting furnaces
- Design cooling system based on for rate of die cast furnaces that included pump placement, cooling tower location and piping
- Design priming systems to have separate supply piping systems and common return for new cooling tower

#### Education:

Bachelor of Science  
Industrial Technology,  
University College of  
New York, Buffalo, NY  
Bachelor of Science  
Mechanical Engineering,  
University of North  
Carolina- Charlotte, NC  
Master of Science  
Mechanical Engineering,  
University of Carolina-  
Charlotte, NC

#### Registration

North Carolina,  
Tennessee, and Virginia

