CONTROLS APPLICATIONS ENGINEER
Mitsubishi Power Aero LLC, Glastonbury, CT

About Mitsubishi Power Aero LLC
Mitsubishi Power Aero LLC is headquartered in Glastonbury, Connecticut, USA, and is a group company of Mitsubishi Power Americas, Inc. Mitsubishi Power Aero is the OEM and the exclusive provider of aero-derivative gas turbine packages based on the advanced technology of Pratt & Whitney® proven aircraft engines. For over 60 years, Mitsubishi Power Aero products and services have been the innovative solutions that our global customers require to deliver reliable, affordable electricity to their consumers.

Our customers rely on us to offer a true partnership for the entire life cycle of their gas turbines and to provide the best advice, monitoring, upgrades, retrofits, and repairs available to keep their operations running smoothly. We offer a rare level of customization, hands-on service, and responsiveness. Speed, flexibility, and durability are hallmarks of our products and customer support, as well as our culture.

Mitsubishi Power Aero has installed more than 2,000 gas turbines in over 50 countries. Our portfolio of aero-derivative gas turbine engines offers competitive, efficient, and flexible products that generate 30 to 140 MW of power in peaking, baseload, and on-demand power applications. As the demand for power expands, and more intermittent sources of power are introduced to power grids, Mitsubishi Power Aero will continue to play a vital role in providing energy security to customers worldwide.

We integrate resources and create synergies with other Mitsubishi Power companies, allowing us to deliver optimized technical and commercial solutions. Customers respect our rich heritage as an innovator and value our financial stability as part of Mitsubishi Heavy Industries Group, a global leader in energy. Mitsubishi Power Aero cultivates the full potential of employees to advance engagement, personal growth, and organizational goals. Connect with us at aero.power.mhi.com or LinkedIn.

Job Summary
The **Controls Applications Engineer** will be responsible for the application, development, modification, testing, and technical support of gas turbine control systems for Mitsubishi Power Aero products. The position will work primarily with Woodward control systems and GAP™ software to develop and modify turbine control logic, implement customer-specific requirements, troubleshoot existing control configurations, and support the deployment and operation of new and upgraded equipment. This role will work closely with Controls Engineering, Electrical Engineering, Field Service, Aftermarket, Projects, and customers to develop reliable and robust control solutions. The position will support projects throughout the equipment life cycle, from initial engineering and development through factory testing, commissioning, troubleshooting, upgrades, and aftermarket support.

Key Responsibilities
- Develop, modify, and maintain gas turbine control logic and applications using Woodward GAP (versions 1.0 thru 4.0) software for new equipment, upgrades, retrofits, and aftermarket projects.
- Translate system requirements, customer specifications, control philosophies, and cause-and-effect requirements into functional control logic and software applications.
- Develop and implement control schemes for aero-derivative power plant operation, including start-up, shutdown, sequencing, speed control, load control, temperature control, protective functions, permissive, interlocks, alarms, and trips.
- Review existing control logic and configurations to identify opportunities for improvements in equipment reliability, operability, maintainability, and performance.
- Configure and modify Woodward control systems, including MicroNet™ Plus, Flex 500, and associated control hardware and software.

- Develop, review, and maintain control system documentation, including control narratives, logic diagrams, cause-and-effect matrices, I/O lists, alarm and trip lists, and related engineering documentation.
- Support the integration of turbine control systems with DCS, PLC, electrical systems, instrumentation, and other BOP equipment.
- Participate in controls software development, FAT and system testing, commissioning, and site troubleshooting activities.
- Provide technical support for new and existing equipment remotely and in person, including analysis of control system data, alarms, events, trends, and operational issues.
- Support Field Service and Aftermarket teams in troubleshooting turbine control system issues and developing corrective actions, modifications, and upgrade solutions.
- Interface with customers to understand operational issues, application requirements, and control system concerns and identify control-related technical risks and deviations; translate requirements into practical engineering solutions and support engineering evaluations and technical investigations.
- Work with the Aftermarket CSMs and applications engineers to develop technical solutions, scopes of work, and proposals for controls upgrades, modifications, and other aftermarket opportunities.
- Maintain log of customer equipment and control-related issues, track recurring problems, identify trends, and communicate findings to the Controls and Product Engineering teams to support continuous improvement of Mitsubishi Power Aero products.
- Collaborate with Controls Engineering, Product Engineering, Electrical Engineering, Field Service, suppliers, and customers to investigate product issues and implement effective corrective actions.
- Participate in the development and introduction of new control system technologies, products, and enhancements.
- Support engineering evaluations and technical investigations related to turbine control system performance, reliability, and operational issues.
- Prepare technical documentation, engineering reports, test procedures, troubleshooting instructions, and customer-facing technical communications.
- Provide technical guidance and mentoring to other engineers and support personnel as appropriate.

Qualifications and Experience

- Bachelor’s degree in electrical engineering, controls engineering, computer engineering, or a related engineering discipline from an ABET-accredited program
- Minimum of eight (8) years of relevant engineering experience, with demonstrated experience in industrial controls, turbine controls, or control system applications; experience working directly with customers on technical issues and developing solutions for aftermarket equipment upgrades or modifications preferred
- Demonstrated experience developing, modifying, and troubleshooting control logic using Woodward GAP (versions 1.0 thru 4.0) or a comparable graphical control programming environment
- Experience with Woodward control systems, preferably MicroNet Plus and/or Flex 500
- Experience with gas turbine controls (aero-derivative preferred), power generation equipment, or other complex industrial control systems, including testing, troubleshooting, start-up, commissioning, loop checking, and field support
- Strong understanding of gas turbine operation, sequencing, control philosophies, permissive, interlocks, alarms, trips, and protection functions
- Ability to interpret and develop cause-and-effect matrices, control narratives, logic diagrams, P&IDs, electrical schematics, and I/O documentation
- Experience interfacing turbine control systems with DCS, PLC, electrical systems, instrumentation, and BOP equipment
- Experience with instrumentation and control devices including transmitters, RTDs, thermocouples, pressure/temperature sensors, speed sensors, vibration systems, actuators, valves, and associated field wiring

- Experience with software tools used for controls engineering, simulation, testing, or troubleshooting (Woodward NetSim, MATLAB/Simulink, or similar) beneficial
- Working knowledge of applicable ANSI, IEC, IEEE, and functional safety/SIL standards relevant to industrial and power generation control systems
- Ability to analyze complex technical problems, identify root causes, and develop practical engineering solutions
- Ability to work independently, manage multiple projects and priorities, and complete assignments with limited supervision
- Strong written and verbal communication skills with the ability to communicate technical information effectively to engineering teams, field personnel, suppliers, customers, and management
- Strong attention to detail and demonstrated ability to work methodically in a technical and quantitative problem-solving environment
- Demonstrated ability to collaborate effectively across engineering, operations, field service, sales, aftermarket, suppliers, and customers
- Familiarity with cybersecurity and secure control system best practices for industrial control systems

Additional Requirement

- Up to 25% domestic and international travel may be required