



**PROTom**  
proton therapy technologies

## **JOIN OUR TEAM, CREATE A FUTURE FOR EVERYONE**

Our team is the core of our mission to transform cancer treatment by expanding worldwide access to proton therapy – an advanced form of radiation therapy. We are always interested in hearing from anyone who shares our vision and believes that they can advance our mission.

### **Senior Controls Engineer**

Regular, Full-Time  
Wakefield, MA

### **Summary**

ProTom's flagship product is the Radiance 330<sup>®</sup> Proton Therapy System ("Radiance 330"). This cutting-edge radiation therapy system requires monitoring, steering, and controlling a high-energy proton beam that treats at sub-mm accuracy using high-speed pulses. Under the direction of the Director of Electrical Engineering, the Senior Controls Engineer will be involved and lead aspects of the design, installation, upgrade, calibration and verification of the Radiance 330. Areas of concentration include automation control devices, Safety PLCs, HMI, SCADA, networking, amplifiers, and motion control.

### **Job Functions and Responsibilities**

1. Lead efforts in the design, testing, and verification of safety and non-safety control systems which include PLC based control systems, power distribution cabinets (<600V), motion control, and process control for machinery depending on temperature, pressure, flow, and other variables.
2. Working knowledge of higher-level computer based systems including networking and communication protocols (TCP/IP, Modbus, RS-232/422/485, CANopen, EtherCAT and EtherNet/IP).
3. Specify requirements and layout of the new electrical control panels, which are NFPA79/NEC/UL508A compliant.
4. Ability to prepare electrical engineering documentation such as schematic, interconnect diagrams, wiring diagrams, BOMs, FMEA, working instructions and operation procedures.
5. Skill in the use of ECAD.
6. Plan, coordinate, and execute critical design reviews and test readiness reviews.
7. Development of system and subsystem test plans and test protocols.
8. Must be well versed in documenting requirements in such a way that they can be partitioned into a system architecture with direct downward and upward traceability to design requirements to ensure they meet the ProTom Quality Management System (QMS) requirements.



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9. Recommend the purchase of capital equipment; assist in the budgeting of spare parts and supplies.

## **Education and Experience**

1. B.S. in Electrical Engineering (BSEE); MSEE a plus.
2. Minimum of 7 years of experience in specification, design, fabrication, test, integration, and documentation of complex electromechanical systems.
3. Experience working within a modern controlled engineering development process such as required by the DOD, FAA, and/or FDA.
4. Design experience in designing control systems utilizing automation control devices such as Safety PLCs, HMI, SCADA, amplifiers, motion control, and a background in designing interfaces to proprietary OEM equipment.

## **Working Conditions**

1. Office environment for the majority of time.
2. Some work will be performed at proton therapy sites, which are typically installed underground, with no natural light.
3. Occasional domestic and international travel to client, vendor, or training sites will likely be required; must be able to acquire all necessary travel documents.