



RADIATION SAFETY PROGRAM SERVICES

Building a Culture of Safety, Ensuring Full Compliance.

Quantum EBX provides comprehensive services to establish a robust Radiation Safety Program tailored to your specific irradiator facility. We ensure your program creates a safe working environment, maintains occupational doses As Low As Reasonably Achievable (ALARA), and satisfies all applicable regulatory requirements. Our programs are developed in accordance with internationally recognized standards, including the IAEA Specific Safety Guide No. SSG-8.

KEY SERVICE AREAS

PROGRAM DEVELOPMENT & DOCUMENTATION

We develop a customized, site-specific Radiation Safety Program Manual that documents policies and establishes the framework for all safety-related activities. The deliverables include:

- **Radiation Safety Manual:** A comprehensive manual defining program objectives, responsibilities, and the framework for safety assessments and quality management.
- **Individual Dose Monitoring Procedures:** To demonstrate that worker exposures are controlled and to provide data for the optimization of worker protection.
- **Workplace Monitoring Procedures:** To assess and minimize exposure rates in working areas through routine radiation surveys.
- **Safety Interlock System Procedures:** To ensure personnel cannot access the radiation area while the beam is energized, including procedures for the periodic testing of interlocks and emergency stop devices.
- **Notices, Postings, and Symbols Procedures:** To ensure all required indicators, radiation symbols, and notices are correctly placed following regulatory requirements.
- **Emergency Preparedness and Response Plans:** To define specific actions for coping with identified events, including accidental exposure, and to ensure emergency equipment is readily available and personnel are trained.



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KEY SERVICE AREAS

RADIATION AREA DESIGNATION & CONTROL

We will assist in the characterization and designation of radiation areas to manage access and protect personnel in accordance with international standards.

- **Designation of Areas:** We will help define, document, and map “controlled areas” (where individual monitoring is required) and “supervised areas” based on workplace radiation surveys.
- **Access Control:** We will develop a formal system for controlling access to controlled areas, ensuring only qualified and authorized irradiator operators can use the irradiator. This includes procedures for controlling access to operating console keys.

PERSONNEL MONITORING & DOSIMETRY SYSTEM

We will help implement a robust personnel monitoring program to assess individual radiation doses accurately and maintain compliance.

- **Dosimeter Administration:** We will establish procedures for the ordering, distribution, collection, and processing of individual dosimeters (e.g., film badges, TLDs).
- **Record Keeping:** We will develop a system for the maintenance of individual dose records and for providing exposure reports to workers as required.
- **Exposure Investigation:** We will establish a process for reviewing exposure reports to ensure dose limits are not exceeded and define formal investigation procedures for any recorded dose that exceeds the investigation level.

TRAINING & QUALIFICATION PROGRAM

We will develop a tiered radiation safety training program to ensure all personnel are qualified for their specific responsibilities.

- **Job Duties & Responsibilities:** We will document the specific radiation safety duties for key roles, including the Irradiator Operator and the Radiation Safety Officer (RSO).
- **Level I - Basic Training:** For all workers with potential occupational exposure, covering the nature of radiation, health hazards, basic protection principles (time, distance, shielding), and actions to take in response to alarms.
- **Level II - Advanced Training:** For Irradiator Operators covering the functioning of the irradiator, safety features, applicable regulations, emergency procedures, and case histories of irradiator accidents.

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RELEVANT STANDARDS

- **IAEA Specific Safety Guide No. SSG-8:** Radiation Safety of Gamma, Electron and X Ray Irradiation Facilities
- **IAEA Safety Series No. 115:** International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources
- **IAEA Safety Standards Series No. RS-G-1.1:** Occupational Radiation Protection
- **IAEA Safety Standards Series No. RS-G-1.3:** Assessment of Occupational Exposure Due to External Sources of Radiation
- **IAEA Safety Standards Series No. GS-R-2:** Preparedness and Response for a Radiological Emergency

CONTACT US TODAY

TO LEARN MORE ABOUT HOW QUANTUM EBX CAN HELP
YOU WITH YOUR RADIATION SAFETY NEEDS.



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