Job Class Profile: Radiation Inspector

Pay Level: CG-38 Point Band: 848-881

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	6	5	3	5	5	5	5	2	5	
Points	280	83	19	24	150	108	103	43	54	864

JOB SUMMARY

The Radiation Inspector fosters a healthy respect and awareness for radiation and radiation protection measures within the province through conducting inspections to ensure compliance with recognized standards; promoting safety and awareness and enforcing legislative protocols to support change.

Key and Periodic Activities

- Develops, administers and supervises a comprehensive Health Physics Program by providing direction to users of radiation equipment; directing users to ensure compliance with current radiation legislation.
- Organizes, undertakes and supervises detailed surveys and inspections of radiation equipment and radioactive materials to ensure compliance with radiation health requirements. Performs radiation assessments; reviews documentation related to equipment or material being assessed; prepares report for owner.
- Researches and develops a program of Thermoluminescent Dosimetry and supervises the implementation and continuation of this program. Makes modifications to procedures as necessary; reports findings to users of radiation equipment.
- Identifies and evaluates radiation health hazards resulting from faulty equipment and improper techniques. Conducts on-site evaluations, interviews with staff and management and observes work practices.
- Interprets the results of surveys and reports directly to the users of radiation equipment and radiation materials; answers questions regarding findings and inspection mechanisms; maintains liaison for future inspections, procedures and requirements.
- Conducts structural shielding assessments by reviewing architectural plans, meeting with stakeholders, performing shielding requirement calculations and relaying information to affected parties.
- Represents the department on the Federal Provincial Radiation Protection Committee.
- Maintains, calibrates and ships for service, office radiation detection equipment.
- Invigilates exams for Non Destructive Evaluation.
- Researches new methodology for inspections and equipment for non-invasive testing.

SKILL

Knowledge

General and Specific Knowledge:

— Radiation equipment and related technology, safety operating procedures and protocols.
— Legislation regarding radiation equipment.
— Inspection procedures.

Formal Education and/or Certification(s):

— Minimum: Diploma in Radiation Technology supplemented by radiation safety training and certification as a Radiation Technologist or an Undergraduate Degree in Physics supplemented by 2 years experience in radiation work or Certification with the Canadian Council of Engineering Technologists with 1 year experience in radiation work.

Years of Experience:

— Minimum: 3 to 4 years

Competencies:

— Proof-read, edit and format documents
— Operate various computer software programs
— Write straight-forward, detailed text to communicate complex/conceptual ideas
— Report writing
— Conduct analysis and assessment

Interpersonal Skills

— A range of interpersonal skills are used including listening to obtain information, asking questions to gain information, providing routine information and communicating specialized information and direction to others, gaining the cooperation of others to resolve issues or problems, providing expert advice, facilitating meetings, making formal presentations, instructing or training and dealing with upset people.
— Communications occur with employees within the immediate work area, department and external organizations utilizing radiation equipment.
— Most significant interactions are with Radiation Analyst to provide direction, discuss issues with technical equipment and the radiation program; clients related to radiation protocols, safety and radiation producing equipment; and manager and peers with the work group of Occupational Health.

EFFORT

Physical Effort

— Work does not result in considerable fatigue requiring periods of rest.
— Work requires occasional lifting of objects 25-50 lbs. such as boxes of exams, radiation equipment and monitoring equipment.
— Work requires periods of constantly sitting and driving, regular standing and walking, and fine finger work when at the computer and using radiation measuring equipment. Also, work requires gross motor skills regularly to move radiation producing equipment in order to perform assessments.

Concentration
— **Visual concentration** is required for driving, conducting inspections and arranging equipment and probe placement, research and reviewing documents and screen data. — **Auditory concentration** is required to be alert to equipment noises during operation which may signal a problem. — A **higher than normal level of alertness** is required when performing Canadian Nuclear Safety Commission related work with sources that emit radiation continuously. — There are **time pressures** when inspecting medical equipment that is used continuously thus there is little free time for inspections. New construction requires multiple inspections at different stages so there are **deadlines**. **Interruptions** can occur when medical equipment is required for an emergency procedure thus cutting short a planned inspection. — **Eye/hand coordination** and **exact results and precision** are required for driving, conducting inspections and arranging equipment and probe placement, research and reviewing documents and screen data.
Complexity
— Work involves a series of tasks and activities that are quite different but allow for the use of similar skills and knowledge. — Complexity of work varies but includes conducting detailed surveys and inspections of radiation equipment and radioactive materials to ensure compliance, radiation assessments, evaluates radiation health hazards, survey interpretation and structural shielding assessments. — A typical problem to solve is related to room layout and accompanying structural shielding requirements. Since not all rooms are created equal and shielding depends on workload, use, occupancy factors of adjacent rooms, beam direction and field size, mathematical calculations are done on a case by case basis. — Guidelines, Acts and Regulations, Safety Codes for particular equipment, Policy and Procedure manuals, technical reference books, counterparts in other jurisdictions and experience serve as references or resources.

RESPONSIBILITY

Accountability and Decision-Making
— Work tasks and activities are generally prescribed or controlled. — Works with initiative and independence with work being reviewed through consultation, reports and observation of results achieved. — Independently can schedule inspections and make own travel arrangements, conduct inspections and make interpretations of legislation, exercise discretion and determine course of action when enforcing compliance/issuing orders and determining shielding design. — Equipment purchases, regulatory changes, and leave all require managerial approval. — Interprets directions and applies guidelines regarding which shielding materials to be used.
Impact
— Results are primarily felt outside the organization on employees in the facilities, radiation system operators, and the general public.

— Work would have a significant impact on equipment (taken out of service for inspection and non compliance), processes and systems may have to be shut down or are affected, information regarding unit's status and availability, facilities, material resources especially if there is a shielding issue, human resources to correct the problem or be removed from the area and health and safety (of patients, workers and operators). — A consequence of error could be an overdose in radiation causing occupational disease and significant cost, equipment closures forcing longer waiting lists for diagnostic services. — Errors or mistakes could have a significant impact on equipment, finances, corporate image and health and safety. It would have some impact on processes and systems, information and facilities.
Development and Leadership of Others
— Not responsible for the supervision of staff but serves as technical advisor/subject matter expert to departmental staff (i.e. Radiation Analyst) and external clients. Sets protocols for the inspection process.

WORKING CONDITIONS

Environmental Working Conditions
— Work requires special precautions and safety equipment when testing radiation emitting equipment such as a dosimeter to monitor radiation exposure. For some inspections, lead aprons and thyroid shields are worn. — There is limited likelihood of illness, injury or occupational illness resulting in partial disability. — Work requires travel constantly and exposure to radiation, hazardous chemicals and awkward or confining spaces, adverse weather conditions, odours and limited lighting on an occasional basis.