



Job Description

(For Positions in CAW Local 555, Unit 1)

Job descriptions do not include every duty that an individual in a position performs. They are intended to be representative and characteristic of the duties required and the level of work performed. Depending upon the size of the department or unit and its functional activities, incumbents who fall into this category may perform all of the duties listed below or, in the case of large departments or units, may be assigned to designated specialized functions.

| | | | |
|-------------|----------------------------------|---------------|-------------|
| JD #: | JD00306 | Pay Grade: | 8 |
| JD Title: | Senior Radiation Surveyor | JD FTE Hours: | 37.5 |
| Job Family: | Technician | | |

General Description

Responsible for providing consultation and audit services in the area of public and occupational radiation safety. Collects and transfers radiological waste and mitigates and eliminates radiation hazards from the University community. Coordinates the safe collection and disposal of waste material from the University and provides technical expertise as it relates to troubleshooting and maintaining departmental testing and safety equipment.

Representative Duties & Responsibilities

- Coordinate weekly health physics laboratory inspections and radioactive waste removal.
- Coordinate the characterization of radioactive waste for removal off campus.
- Negotiate vendor contracts for waste removal, transportation, instrument repair, and equipment maintenance.
- Liaise with waste disposal vendors to ensure the safe and reliable removal of radioactive waste from the University.
- Determine the waste content for each shipment ensuring that loads are within the established safety limits for transport off campus.
- Maintain radioactive waste inventories.
- Provide guidance and advice regarding waste collection and packaging.
- Collaborate with senior staff in developing training material for the department.
- Develop and deliver training sessions.
- Coordinate the University's participation in the National Calibration and Accreditation program by receiving and analyzing radioactive samples and reporting results accordingly.
- Analyze samples of radioactive material to determine the activity and radionuclide content.
- Prepare and maintain records of analyses acceptable to the Canadian Nuclear Safety Commission inspectors.
- Write the user manual for counting equipment which includes relevant drawings, procedures, and background information.
- Maintain, calibrate, and operate highly specialized counting equipment in the health physics counting laboratory.
- Troubleshoot and resolve electronic and mechanical equipment failures as they arise.
- Read and understand electrical schematics and mechanical drawings.
- Maintain equipment and supplies for emergency response scenarios.
- Act as a lead during emergency response field activities.
- Create spreadsheet applications for sample analysis and record generation.
- Complete regression analyses for counting efficiency curves.
- Identify and mitigate sources of radioactive releases and contamination in the University's nuclear reactor and high level labs.
- Ensure the use of industry wide best practices by exchanging and comparing technical information with relevant internal and external groups.
- Prepare data reports for compliance reporting.
- Inspect and audit laboratories, facilities, and workplaces for potentially hazardous materials and agents in accordance with regulatory agency requirements and University radiation safety program requirements.
- Collect and count radiological samples and determine if results are within established safety limits.
- Conduct measurements in the field to detect hazardous materials and agents, and interpret their impact with respect to established safety regulations.

Representative Duties & Responsibilities

- Formulate recommendations and provide advice on how to eliminate safety hazards.
- Collect radioactive waste from University facilities and transport materials safely between buildings.
- Propose solutions for waste characterization problems in laboratories.
- Conduct technical observations of handling techniques for hazardous materials.
- Commission and decommission radioisotope laboratories at the University.
- Provide input into safety related policies and procedures and safety program development.
- Enforce compliance with University policies and the regulations of the Canadian Nuclear Safety Commission by issuing written warnings and, if necessary, stop work orders for infractions.
- Write operational procedures involving the safe handling and use of radioactive materials and radiation detection instrumentation.
- Write reports and summaries of radioactive waste characterization, segregation, and amount disposed.
- Prepare high risk isotope monitoring reports.
- Create and complete forms and postings describing measured radiological hazards outlining the potential risks encountered.
- Update and maintain inventory lists for radioactive materials, radiation instrumentation, and authorized users.
- Respond to inquiries, concerns, and complaints received by staff, students, faculty, and members of the public.
- Use defined formulas and equations to complete various calculations including, but not limited to, radioactivity, decay, and monitoring amounts.
- Demonstrate safe handling procedures of materials to users within the University.
- Demonstrate new laboratory radioactive work procedures.
- Calibrate portable radiation detection instrumentation.
- Pipette and prepare samples for liquid scintillation counting.
- Operate various power tools and hydraulic forklifts.
- Respond to and resolve radiological and nuclear emergencies.
- Attend and participate in department meetings.
- Maintain security clearances sufficient to be granted unescorted access to the nuclear reactor.
- Maintain radiation safety qualifications and complete mandatory safety training as required.

Supervision

- Ongoing responsibility for supervising up to 9 casual employees at any one time.

Qualifications

- 3 year Community College diploma in Health Physics, or related field.
- Requires 3 years of relevant experience.

Effort

Physical Effort:

- A typical work day consists of up to 3.5 hours of low physical effort for activities such as:
 - Intermittent periods of keyboarding to write reports and respond to inquiries.
- A typical work day consists of up to 2 hours of moderate physical effort for activities such as:
 - Pipetting samples.
 - Working in confined spaces to monitor contamination.
- A typical work day consists of up to 2 hours of high physical effort for activities such as:
 - Collecting and transporting radioactive waste.

Mental Effort:

- A typical work day occasionally requires routine mental effort for activities such as:
 - Processing routine documentation and reports.
- A typical work day consists of greater than 3.5 hours of moderate mental effort for activities such as:
 - Attending and participating in weekly meetings.
 - Negotiating vendor contracts for waste removal, transportation, instrument repair, and equipment maintenance.
 - Maintaining, calibrating, and operating highly specialized counting equipment in the health physics counting laboratory.
 - Delivering training sessions to staff as it pertains to policies, procedures, and use of equipment.
 - Troubleshooting and resolving electronic and mechanical equipment failures.
 - Commissioning and decommissioning all radioisotope laboratories at the University.
 - Formulating recommendations and providing advice on how to eliminate hazards.
 - Providing input into safety related policies and procedures and safety program development.
 - Enforcing compliance with University policies and the regulations of the Canadian Nuclear Safety Commission by issuing written warnings and stop work orders for infractions.
- A typical work day consists of up to 2 hours of high mental effort for activities such as:
 - Analyzing samples of radioactive material to determine the activity and radionuclide content.
 - Responding to and resolving radiological and nuclear emergencies.

Working Conditions

Physical Environment:

- Occasionally required to work outside in a range of weather conditions while moving waste and taking measurements.
- Occasionally exposed to unpleasant odours from waste.
- Occasionally required to work in uncomfortable work spaces when monitoring contamination.
- Occasionally exposed to loud noises from the liquid nitrogen filling stations and reactor alarms.
- Occasionally exposed to biological or repulsive substances contained in waste.
- Occasionally required to wear protective equipment such as safety shoes, safety glasses, and a respirator.

Psychological Environment:

- Occasionally interacts with individuals who may be rude or upset.
- Frequently handles competing requests with simultaneous deadlines.

Health & Safety:

- Handles and disposes of radioactive waste which contains toxic substances and biohazardous materials.

Job Description Rating Sheet

(For Positions in CAW Local 555, Unit 1)

| | | | |
|-------------|----------------------------------|---------------|------------|
| JD #: | JD00306 | Pay Grade: | 8 |
| JD Title: | Senior Radiation Surveyor | Total Points: | 536 |
| Job Family: | Technician | | |

| Factor | Subfactor | Level Rating | Points |
|---------------------------|--|--------------|--------|
| Skill | 1. Applied Reasoning and Analytical Skills | 4.0 | 83 |
| | 2. Breadth of Knowledge | 2.0 | 13 |
| | 3. Adaptation to Change/Updating of Learning | 2.5 | 17 |
| | 4. Interpersonal Skill | 3.5 | 46 |
| | 5. Education and Experience | D8 | 72 |
| | 6. Dexterity and Coordination | 3.0 | 21 |
| Effort | 7. Physical Effort | 3.0 | 18 |
| | 8. Mental Effort | 3.0 | 55 |
| Responsibility | 9. Planning and Coordination | 3.0 | 46 |
| | 10. Responsibility for Others | 3.0 | 55 |
| | 11. Accountability for Decisions Actions Affecting People, Assets, and Information | 3.0 | 66 |
| Working Conditions | 12. Physical Environment | 3.0 | 18 |
| | 13. Psychological Environment | 2.0 | 10 |
| | 14. Health and Safety | 2.0 | 16 |