



**ALBERTA ASSOCIATION
FOR SAFETY PARTNERSHIPS**

**Background Document on the
Registration of Designated Radiation
Equipment in the Province of Alberta**

I. Introduction

The *Radiation Protection Act* and Regulation govern certain designated radiation equipment in the Province of Alberta. Specific types of designated equipment are listed in the *Radiation Protection Regulation*. Compliance with the *Radiation Protection Act* and Regulation is the responsibility of Alberta Labour. Alberta Labour has accredited various organizations to administer and assume the responsibility for ensuring the safe use of radiation emitting devices. The accredited organizations are referred to as Radiation Health Administrative Organizations. The accredited organizations are the Alberta Dental Association and College, the Alberta Veterinary Medical Association, the Alberta College and Association of Chiropractors, the College of Physicians and Surgeons of Alberta, the University of Alberta and the University of Calgary. Effective September 3, 2013, the Alberta Association for Safety Partnerships assumed responsibility for ensuring the safe use of radiation emitting devices not covered by these specific Radiation Health Administrative Organizations.

II. Regulatory Authority and Responsibilities

Alberta Labour has moved away from direct delivery of radiation health and safety services. The transfer of the responsibility for the services is authorized in the Radiation Health Administration Regulation of the *Government Organization Act*, and allows professional colleges, associations, and educational institutions to enter into agreements with the Minister of Alberta Labour to administer sections of the *Radiation Protection Act*. Those professional colleges, associations, and educational institutions which have entered into agreements are referred to as Radiation Health Administrative Organizations.

The Radiation Health Administration Regulation also allows companies that provide radiation protection services to enter into agreements with the Minister of Alberta Labour. These companies are referred to as Authorized Radiation Protection Agencies. The Agency may complete the following, test radiation facilities, radiation equipment, or radiation sources including the review of facility design or shielding for the purpose of verifying compliance.

Organizations

The Alberta Association for Safety Partnerships, as an authorized Radiation Health Administrative Organization, has been delegated authority to ensure the following sections of the *Radiation Protection Act* and Regulation are completed:

Radiation Protection Act, R.S.A. 2000, Chapter R-2

- Section 10 (2) Issue registration certificates
- Section 10 (3) Apply restrictions to certificates
- Section 10 (5) Restrict installation, operation, and modifications of equipment
- Section 10 (7) Registration/re-registration notification requirements
- Section 10 (8) Suspension of registration certificates
- Section 10 (9) Cancellation of registration certificates
- Section 15 (1) (a-d &f) Inspections
- Section 15 (3) Remove records
- Section 15 (4) Seize samples
- Section 15 (5) Apply for restraining order
- Section 16 Remedial action

Radiation Protection Regulation, AR 182/2003

- Section 10 (1) Issue registration certificates

- Section 10 (2) Apply restrictions to certificates
- Section 10 (3) Provision of shielding design information (if required)
- Section 11 – Set the term and renewal date of a registration certificate.

Responsibilities of the Radiation Health Administrative Organizations include:

- Registration of designated radiation equipment
- Administer compliance verification of equipment owners
 - inspections
 - audits
 - order investigations
- Suspension or cancellation of registration certificates
- Issue directives

Agency

Delegated authority for Agencies includes the following sections of the *Radiation Protection Act* and Regulation:

Radiation Protection Act, R.S.A. 2000, Chapter R-2

- Section 15 (1) Inspections
- Section 15 (1)(e) Conduct tests
- Section 15 (4) Seize samples

Radiation Protection Regulation, AR 182/2003

- No delegated authority under the regulation have been transferred to the Agencies

Responsibilities of an Authorized Radiation Protection Agency.

- Conduct compliance monitoring activities
 - inspections
 - audits
 - investigations
 - tests

Owners

Owner's responsibilities for designated radiation equipment are summarized below:

- Take reasonable precautions to protect others from radiation injury. *Section 5(1), 6(1), (2) (a-e) and Section 9(1) (a & b).
- Ensure that work involving radiation equipment is done by a competent worker or by a worker under the supervision of a competent worker. *Section 7(2), (3)
- Ensure that exposure is in accordance with ALARA (as low as reasonably achievable) and does not exceed the maximum annual exposure limits as prescribed in the Regulation. *Section 12(1) (a & b), (2).
- Establish and implement a quality assurance program (diagnostic x-ray only) *Section 14(2),
- Notify the Radiation Health Administrative Organization of incidents and overexposures and conduct an investigation *Section 13(1),

*Paraphrased from the Radiation Protection Act, R.S.A. 2000, Chapter R-2

III. Process for registration of designated radiation equipment

All radiation emitting equipment that is designated under the Radiation Protection Act and Regulation,

must be registered by Alberta Labour or an accredited Radiation Health Administrative Organization. Application for registration must be made for new equipment, relocation of existing equipment, modification to existing equipment, or modification of the protective properties of a facility.

Equipment modifications include, but are not limited to:

- More powerful tube
- New generator
- Change to a safety feature of the unit
- Change in the function of the equipment, for example adding a fluoroscopy unit
- Addition or changes to optics
- Addition of auxiliary equipment which accentuates, or enhances the emitted radiation

Facility modifications include, but are not limited to:

- Change in design which alters the walls
- Change in occupancy factors
- Change in controlled and uncontrolled areas
- Change which results in a secondary barrier becoming a primary barrier
- Change in location of a unit within the room

Registration Process

- 1) Owner contacts Alberta Association for Safety Partnerships, RHAO.
 - Contact the Alberta Association for Safety Partnerships, RHAO at (587) 273-1634; (403-392-5981 or head office (866) 223-9008 or email: radiationhealth@safetypartnershipsaaasp.com or go to the web site www.safetypartnershipsaaasp.com for an “Application for Registration of Designated Radiation Equipment in the Province of Alberta.”
- 2) Alberta Association for Safety Partnerships, RHAO sends information and application to Owner.
- 3) Owner contacts an Agency to arrange for compliance verification testing.
- 4) Agency submits report to Owner.
 - Agency completes compliance verification testing and provides a report to the owner of the equipment as outlined in Section IV.
- 5) Owner sends application and copy of report to Alberta Association for Safety Partnerships, RHAO.
- 6) Alberta Association for Safety Partnerships, RHAO verifies compliance and sends a registration certificate to the Owner.
 - Alberta Association for Safety Partnerships, RHAO will review the application for completeness.
 - Alberta Association for Safety Partnerships, RHAO will review the contents of the Compliance Verification Report.
 - Alberta Association for Safety Partnerships, RHAO will contact the owner or Authorized Radiation Protection Agency for clarification, if required.
 - Alberta Association for Safety Partnerships, RHAO will issue a Certificate of Registration for each piece of equipment.
 - Certificates are issued for each application of equipment and are valid for a term of four years.

IV. Compliance Verification

Compliance verification must be performed prior to the designated radiation equipment being registered, in order to ensure designated radiation emitting equipment, personal protective equipment, and the

radiation facility complies with the *Radiation Protection Act*, and the Radiation Protection Regulation.

Compliance verifications are performed by an Authorized Radiation Protection Agency for new equipment, relocation of existing equipment, modification to existing equipment, modification of the protective properties of the facility, as described in Section 10 (5) of the *Radiation Protection Act*, or upon recommendation by the Alberta Association for Safety Partnerships, RHAO.

The designated person from the Agency will complete a Compliance Verification Report for each piece of designated radiation emitting equipment. The Authorized Radiation Protection Agency may do a follow up visit, if the equipment or facility does not comply or pending written confirmation from the facility, must prepare an addendum to the report advising of compliance. Original reports are provided to the owner. Owners subsequently forward a copy of the report to the Alberta Association for Safety Partnerships, RHAO with the application for registration of equipment.

An up to date list of Authorized Radiation Protection Agencies can be obtained from the Alberta Association for Safety Partnerships, RHAO website or from Alberta Labour.

The owner of the equipment is responsible for making arrangements with an Authorized Radiation Protection Agency for the verification testing to be completed. In order to ensure designated radiation emitting equipment, personal protective equipment and the radiation facility comply with the *Radiation Protection Act* and Regulation under the Act, compliance verification must be done prior to the equipment being registered.

Compliance verification will:

- Ensure that the design, construction, and function of the facility and equipment comply with the *Radiation Protection Act*, and Radiation Protection Regulation. This includes any requirements specified in a referenced Safety Code or International Consensus standard.
- Ensure that worker and public exposures are within the limits specified in the Radiation Protection Regulation.
- Confirm that the principle of ALARA (as low as reasonable achievable) has been utilized within the facility design.
- Verify that the shielding has been calculated and installed correctly.

Compliance verification reports must contain the following information:

- Date of compliance verification
- Description of parameters verified
- Numeric results of tests completed
- Statement that indicates that the equipment and facility comply with the *Radiation Protection Act* and Regulation. Alternatively, recommendations stating what needs to be corrected in order to achieve compliance with the *Radiation Protection Act* and Regulation.
- Signature of the person who completed the verification.

The Alberta Association for Safety Partnerships, RHAO will notify the owner and the Agency if the Compliance Verification Report is not acceptable. The Alberta Association for Safety Partnerships, RHAO will not issue a Registration Certificate until an acceptable Compliance Verification Report is received.

V. Compliance Monitoring

Subsequent to compliance verification, compliance monitoring is done by the Administrative

Organization to ensure radiation facilities systematically comply with the applicable legislation regarding Radiation Health and Safety on an ongoing basis. A Compliance Verification Report is required for each piece of designated radiation emitting equipment in industrial and commercial facilities when the equipment is disposed of or put in storage.

It is the responsibility of the Owner of the equipment to notify AASP-Radiation Health when equipment status has changed such as when the equipment is disposed of, sold or put in storage.

VI. Biennial process for confirmation of equipment status

Ongoing compliance monitoring may consist of the following:

- Evidence of a Quality Control Program – diagnostic dental x-ray equipment only
- Evidence of preventative maintenance – diagnostic dental x-ray equipment only
- Evidence of personal exposure monitoring – diagnostic dental x-ray equipment only

Confirmation of the status of diagnostic x-ray equipment is required biennially. The biennial confirmation requests will be sent to the Owners every two years in September.

The Administrative Organization will forward the appropriate forms to the owners for the specific equipment on a biennial basis. A biennial report is also required for physiotherapy, massage therapy and dental lasers. The Administrative Organization must also receive a biennial report for dental radiation equipment and confirmation of the Quality Assurance Program.

The owner will verify the following information and sign the form before returning to the Registrar. The following information will be included on the form:

- Owner name, address and email
 - Facility name and address
 - Equipment type, number, location, manufacturer, model, serial number, and date of manufacturer.
- If there have been changes or modifications, the equipment must be inspected for compliance verification. The equipment must then be registered again.

The Administrative organization will update the records upon receipt of the status of equipment report from the owner.

VII. Investigation of Complaints or Incidents

The Administrative Organization may issue a written directive; if it is determined through any source that a condition in a radiation facility, radiation equipment, or a radiation source under the jurisdiction of the Administrative Organization contravenes the Act or poses unnecessary exposure risk to workers or the general public. The written directives may involve the following;

- Prohibits the use of the radiation facility, the radiation equipment, or the radiation source.
- Prohibits the use of the radiation facility, radiation equipment, or radiation source until it is repaired or altered.
- Requires the owner to take prescribed action to remedy the risk or danger.

Where written directives are issued by the Administrative Organization as allowed under

section 16(2) of the *Radiation Protection Act*, the Administrative Organization will determine if the directive has been complied with in the time period prescribed. The Administrative Organization will notify the Alberta Labour of the issuance and the status of conformance.

Upon receipt of a written complaint, the complainant will be acknowledged in writing of the complaint, the owner of the equipment will receive a copy of the complaint and will be required to submit a report about the incident to the Administrative Organization.

Only qualified personnel employed by the Administrative Organization or authorized accredited agencies will be used when investigations by the Administrative Organization are necessary.

The findings of the investigation and required actions may advise that there be:

- No further action.
- Corrective advice or other remedy may be offered to the owner without prejudice.
- Issue a written directive to the owner of the equipment or the facility.
- Referral to the Minister of Alberta Labour for prosecution under the *Radiation Protection Act*.

At the conclusion of the investigation, a written report will be forwarded to the complainant and the owner.