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Republic of the Philippines
Department of Science and Technology
PHILIPPINE NUCLEAR RESEARCH INSTITUTE
Commonwealth Avenue, Diliman, Quezon City

LICENSING REQUIREMENTS FOR RADIOGRAPHIC OPERATIONS IN INDUSTRIAL RADIOGRAPHY

CPR PART 11

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I. GENERAL PROVISIONS

Section 1. ***Purpose and Scope.***

(a) This Part is promulgated pursuant to Republic Act No. 5207, otherwise known as the "Atomic Energy Regulatory and Liability Act of 1968", as amended, to establish the licensing and regulation of atomic energy facilities and materials in the Republic of the Philippines.

(b) This Part prescribes the requirements for the issuance of licenses for the use of radioactive sources and radiographic exposure devices in industrial radiography.

(c) This Part provides the requirements for the safety and security of radioactive sources and radiographic exposure devices.

(d) The requirements in this Part provides protection for the health and safety of the workers, the general public and the environment.

Section 2. ***Definitions.***

As used in this Part:

(a) **"Act"** means Republic Act No. 2067, otherwise known as the Science Act of 1958, as amended by Republic Act No. 3589, and Republic Act No. 5207, otherwise known as the Atomic Energy Regulatory and Liability Act of 1968, as amended by Presidential Decree No. 1484;

(b) **"ALARA"** means as low as reasonably achievable; making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical:

(1) Consistent with the purpose for which the licensed activity is undertaken; and

(2) Taking into account the state of the technology, the economics of improvement in relation to benefits to the health and safety of the public and the radiation workers and other societal and socio-economic considerations;

(c) **"Assistant Radiation Protection Officer"** means a person who is identified in the license issued pursuant to this Part to perform the duties and responsibilities in the absence of the RPO;

(d) **"Associated Equipment"** means equipment that is used in conjunction with a radiographic exposure device to make radiographic exposures that drives, guides, or comes in contact with the source such as guide tube, control tube, control or drive cable, removable source stop, "J" tube and collimator when it is used as an exposure head;

(e) **"Certification"** means written approval received from a certifying entity stating that an individual has satisfactorily met certain established radiation safety, testing, and experience criteria;

(f) **"Carrier"** means the person, organization or government that undertakes transport of radioactive material;

(g) **"Client"** means the organization or person responsible for hiring the licensee to perform industrial radiography work.

(h) **"Control or Drive Cable"** means the cable that is connected to the source assembly and used to drive the source to the exposure location;

(i) **"Control Drive Mechanism"** means a device that enables the source assembly to be moved to and from the exposure device;

(j) **"Control Tube"** means a protective sheath for guiding the control cable. The control tube connects the control drive mechanism to the radiographic exposure device;

(k) **"CPR"** means the Code of PNRI Regulations;

(l) "Depleted Uranium (DU) Shielding" means shielding of radiographic devices which incorporate depleted uranium that is denser than lead. Depleted uranium (DU) is radioactive, which means that even when radiographic exposure device does not contain radiography source, that type should be disposed of as authorized by PNRI;

(m) **"Disused Source"** means a radioactive source which is no longer used, and is not intended to be used, for the practice for which a license has been granted;

(n) **"Export"** means the physical transfer, originating from the Philippines, into an importing State or to a recipient in an importing State, of one or more radioactive source(s) covered by the regulations of this Part;

(o) **"Field Station"** means a facility authorized in the license where radioactive source may be stored or used and from which radiographic exposure device and associated equipment are dispatched;

(p) **"Guide Tube or Projection Sheath"** means a flexible or rigid tube such as "J tube", for guiding the source assembly and the attached control cable from the exposure device to the exposure head. The guide tube may also include the connections necessary for attachment to the exposure device and to the exposure head;

(q) **"Import"** means the physical transfer, into the Philippines or to a recipient in the Philippines and originating from an exporting State, of one or more radioactive source(s) and radiographic exposure device covered by the regulations of this Part;

(r) **"Independent Certifying Body"** means an independent certifying organization meeting the requirements in **Appendix A (I)** of this Part;

(s) **"Industrial Radiography"** means an examination of the structure of materials by non-destructive methods, utilizing ionizing radiation to make radiographic images;

(t) **"Inventory"** means a campaign to physically check all sources possessed, by specifically and uniquely identifying each source using appropriate means such as serial numbers. For very high activity sources, radiation safety consideration may require means other than direct visual observation to perform an inventory;

(u) "**Management System"** means a set of interrelated or interacting elements for establishing policies and objectives and enabling the objectives to be achieved in an efficient and effective manner;

(v) **"Permanent Radiographic Installation"** means an installation or structure authorized in the license and not located at a temporary jobsite or field storage in which industrial radiography is regularly performed;

(w) **"Practical Examination"** means a demonstration through practical application of the safety rules and principles in industrial radiography including use of all appropriate equipment and procedures;

(x) **"PNRI"** means the Philippine Nuclear Research Institute and/or its duly authorized representative;

(y) **"Qualification"** means a demonstration of the knowledge, skill, training and experience required to properly perform radiography and safety related tasks;

(z) **"Radioactive Source"** means any radioactive material that is permanently sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control. It also means any radioactive material released if the radioactive source is leaking or broken but does not mean material encapsulated for disposal, or nuclear material within the nuclear fuel cycles of research or power reactor;

(aa) **"Radiographer"** means an individual who has been certified by an independent certifying body and has complied with the training and experience requirements in Section 42 (a) of this Part;

(bb) **"Radiographer's Assistant"** means an individual who works under supervision of qualified radiographer but who does not conduct any radiographic test independently, does not interpret test results and does not write reports of test results;

(cc) **"Radiographic Exposure Device"** means any instrument, such as gamma camera, containing a radioactive source fastened or contained therein, in which the radioactive source or shielding thereof may be moved, or otherwise changed, from a shielded to unshielded position for purposes of making a radiographic exposure;

(dd) **"Radiographic Operations"** means all activities associated with the presence of radioactive sources in a radiographic exposure device during use of the device or transport (except when being transported by a common or contract transport), to include surveys to confirm the adequacy of boundaries, setting up equipment and any activity inside restricted area boundaries;

(ee) **"Radiation Protection Officer"** means a person technically competent in radiation protection matters relevant for a given type of practice who is designated by the licensee to oversee the application of regulatory requirements;

(ff) **"Safety"** means measures intended to minimize the likelihood of accidents with radioactive sources and, should such an accident occur, to mitigate its consequences;

(gg) **"Safety Culture"** means the assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, protection and safety issues received the attention warranted by their significance;

(hh) **"Security"** means measures to prevent unauthorized access or damage to, and loss, theft, unauthorized transfer of radioactive sources;

(ii) **"Security Culture"** means characteristics and attitudes in organizations and of individuals which establish that security issues receive the attention warranted by their significance;

(jj) **"Source Assembly"** means an assembly that consists of the radioactive source and a connector that attaches the source to the control cable. The source assembly may also include a stop ball used to secure the source in the shielded position;

(kk) **"Source Changer"** means a device designed and used for replacement of radioactive sources in radiographic exposure device including those used also for transporting and storage of radioactive sources;

(ll) **"Storage Area"** means any location, facility or vehicle which is used to store,

transport, or secure a radiographic exposure device, storage container, or radioactive source when it is not in use, and which is locked and has a physical barrier to prevent accidental exposure, tampering with, or unauthorized removal of the device, container, or source;

(mm) **"Storage Container"** means a container in which radioactive sources are secured and stored;

(nn) **"Temporary Jobsite"** means a location where radiographic operations are conducted and where radioactive sources maybe stored other than those location(s) of use authorized on the license;

(oo) **"Worker"** means any person who works, whether full time, part time or temporarily, for an employer and who has recognized rights and duties in relation to occupational radiation protection.

Section 3. ***Interpretation.***

Except as specifically authorized by the PNRI Director in writing, no interpretation of the meaning of the requirements in this Part shall be recognized to be binding upon PNRI.

Section 4. ***Communication.***

All communications and reports concerning the license and the regulations in this Part shall be addressed to

The Director
Philippine Nuclear Research Institute
Commonwealth Avenue, Diliman, Quezon City

Section 5. ***Applicability of other Regulations and Requirements, and Resolution of Conflicts.***

(a) The requirements in this Part shall be applied in conjunction with the radiation protection and safety requirements of CPR Part 3 – "Standards for Protection against Radiation", the safe transport requirements of CPR Part 4 – "Regulations on the Safe Transport of Radioactive Material in the Philippines", and the security requirements of CPR Part 26 – "Security of Radioactive Sources" and CPR Part 27 – "Security Requirements in the Transport of Radioactive Materials" and other applicable regulations.

(b) This Part are in addition to, and not in place of, other applicable national and local laws and regulations.

(c) This Part does not relieve the applicant or licensee from complying with the applicable laws of the Republic of the Philippines and regulations of other responsible government agencies.

(d) If a conflict exists between requirements contained herein and other laws or regulations, the PNRI shall be notified of such conflict in order to initiate steps towards resolution.

(e) Nothing in this Part shall be construed as restricting any actions that may otherwise be necessary for protection and safety.

Section 6. ***Activities Requiring License.***

No person shall acquire, receive, possess, own, use, transfer or import radioactive sources and radiographic exposure devices used in industrial radiography except in accordance with a license issued by PNRI pursuant to this Part.

Section 7. ***Application for New License.***

(a) An application for a new license for the use of sealed radioactive material in industrial radiography described in this Part shall only be received by the PNRI if made by filing an application for a new license pursuant to this Part on *PNRI/NRD Form – 011, "Application for a Radioactive Material License (Industrial Radiography)".*

(b) Each application for a license pursuant to this Part shall be duly affirmed and notarized and shall be signed by the applicant or a person duly authorized to act for and on his behalf upon submission to PNRI.

(c) The applicant shall submit a copy of current business permit issued by the responsible government agency and a proof of authenticity of business name issued by the:

(1) Securities and Exchange Commission, for corporation; or

(2) Department of Trade and Industry, for single proprietorship.

(d) The application shall adequately describe the necessary information required in the application form in accordance with the technical, safety, and security requirements specified in this Part and will be accepted and processed only when PNRI has determined the completeness of the submitted information.

(e) The licensee shall pay the required license fees and other charges in connection with his license application in accordance with CPR Part 22, “Fees and Charges for Radioactive Material Licenses and Other Related Regulatory Services”.

(f) The PNRI may, at any time after the filing of the application, require further statements to enable PNRI to determine whether the license shall be granted or denied.

Section 8. ***Issuance of License.***

The PNRI shall approve an application for a license pursuant to this Part if:

(a) The application is for a purpose authorized by the Act;

(b) The applicant has submitted to the PNRI a description of its over-all organization responsible for implementing the radiography program, including specific delegation of authorities and responsibilities to workers involved in the operation of the program;

(c) The applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property as well as to ensure the security of the radioactive sources;

(d) The applicant has designated a Radiation Protection Officer (RPO) and Assistant Radiation Protection Officer (ARPO), who shall both consent and agree in writing, and shall ensure the effective implementation of the radiation safety programs in accordance with approved procedures and the regulatory requirements;

(e) The applicant has designated a Security Manager, who shall consent and agree in writing, and shall ensure the effective implementation of the source security programs in accordance with approved procedures and the regulatory requirements;

(f) The applicant's submitted layout and design of the permanent radiographic installation, field station and/or storage facility, when considered together with the proposed operating and control procedures, are found to be adequate and in accordance with regulatory requirements of this Part;

(g) The applicant has submitted written operating and emergency procedures in accordance with Section 22 of this Part;

(h) The applicant has submitted a description of its internal inspection program that will ensure that its radiographers, radiographer's assistant, and trainees comply with regulatory requirements in accordance with Section 17 of this Part;

(i) The applicant has a program for training and refresher course of the RPO, ARPO, radiographers, radiographer's assistant and trainees;

(j) The radiographers and radiographer's assistants listed in the application are qualified by training and experience to use the radioactive source for the purpose requested;

(k) The applicant possesses a calibrated and operable radiation survey instrument, with a range such that 0.02 mSv/hr through 10 mSv/hr can be measured, which will be available for each radiographic operation being performed. Each portable radiation survey instrument shall be calibrated at intervals not to exceed six (6) months and after each repair. The applicant shall submit written procedures for calibration of survey instruments or the name, address and license number of the organization that will perform the calibration;

(l) The applicant has provided each RPO, ARPO, radiographer, and radiographer's assistant with a direct reading pocket dosimeter or similar active dosimeter, alarm ratemeter, and a thermoluminescent dosimeter (TLD) or optically stimulated luminescence (OSL) or any similar personal dosimeters, which shall be worn at all times during radiographic operations;

(m) For every radiographic exposure device, the applicant possesses a required set of safety instruments specified in Paragraphs (j) and (k) of this Section;

(n) The applicant has established and submitted to PNRI an emergency plan in accordance with the requirements of CPR Part 3;

(o) The applicant has established and submitted to PNRI a Source Security Plan in accordance with the requirements of CPR Part 26 for Category 2 and Security Level B radioactive sources;

(p) The applicant has established acceptable procedures for the transport of radioactive sources in source changers and radiographic exposure devices in accordance with the requirements of CPR Part 4;

(q) The applicant has ensured that disused sources shall be returned to the original supplier or manufacturer in the country of origin;

(r) The applicant has submitted disposal plan for radiographic exposure devices containing depleted uranium (DU) shielding;

(s) The applicant has submitted proof of compatibility of the radioactive source and the radiographic exposure device;

(t) The applicant has paid the required license fee and other charges, if any, in accordance with the CPR Part 22.

Section 9. ***Terms and Conditions of License.***

(a) The license shall be valid for a period as may be determined by PNRI;

(b) Each license shall be subjected to the provisions of the Act, the specific conditions of the license, and to applicable rules, regulations and orders of PNRI;

(c) Neither the license nor right granted under the license shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any other person unless PNRI, after securing full information:

(1) Finds that the proposed transfer, assignment or disposition is in accordance with the CPRs and the provisions of the Act; and

(2) Consents in writing to the proposed transfer, assignment or disposition;

(d) Each licensee shall confine the use, possession and storage of the radioactive

sources to the locations authorized in the license;

(e) Each licensee shall strictly comply with the requirements in this Part regarding the renewal, amendment and expiration of license;

(f) Each licensee shall maintain and retain records as required in this Part;

(g) Each licensee shall apply for a license amendment not later than thirty (30) days after its Radiation Protection Officer (RPO) permanently ceases to discharge his/her duties and responsibilities under the license;

(h) Each licensee shall notify PNRI immediately in writing within thirty (30) days if there is a change in the licensee's name or mailing address. The notice, together with relevant supporting documents shall be sent to PNRI;

(i) Each licensee shall notify PNRI immediately in writing following the filing of a voluntary or involuntary petition for bankruptcy under existing Philippine laws; and

(j) A copy of the existing license and applicable CPRs shall be kept and made available at each authorized location and at places where radiographic operation is conducted.

Section 10. ***Additional Regulatory Requirements.***

The PNRI may impose upon the licensee, by appropriate rule, regulation, or order after due process or consultation, such requirements in addition to those established in this Part as it deems appropriate or necessary to protect the health and safety of the public or minimize danger to life or property and ensure the security of radioactive sources.

Section 11. ***Amendment of License.***

(a) An application for amendment of a license shall be made by submitting the *PNRI/NRD Form – 011, "Application for a Radioactive Material License (Industrial Radiography)"*, and shall specify in what respect the licensee desires his license to be amended in accordance with Paragraph (b) in this Section and the grounds for such amendment. The corresponding license amendment fee required in CPR Part 22 shall be paid upon filing of the application.

(b) A licensee shall apply for and shall receive a license amendment before:

(1) It permits anyone to work as Radiation Protection Officer (RPO), Assistant Radiation Protection Officer (ARPO), radiographer or radiographer's assistant other than those previously authorized in the license;

(2) It replaces Radiation Protection Officer (RPO), Assistant Radiation Protection Officer (ARPO), radiographers or radiographer's assistant;

(3) It possesses at any one time radioactive sources in excess of the activity authorized in the license;

(4) It leases, receives and uses radioactive sources or radiographic exposure device other than what is indicated in the license;

(5) It relocates or modifies the storage area in the field station or permanent storage described in the license for the radioactive sources;

(6) It modifies its permanent radiographic installation; or

(7) It implements any major change in the approved radiation safety program.

Section 12. ***Expiration of License.***

(a) Each license shall expire at the end of the day of the expiration date stated in the license. Pending any PNRI discretion on the disposition of the license, the licensee shall keep all radioactive sources under safe and secure storage in accordance with the security plan.

(b) If the licensee fails to file an application for the renewal of his license or fails to notify PNRI about the safe and secure disposition of the radioactive sources thirty (30) days after the expiration date, PNRI shall require the licensee to submit a written explanation why an order to place the radioactive sources under temporary regulatory custody should not be issued.

(c) If the license is deemed to have expired and will not be renewed, the licensee shall notify PNRI accordingly and shall cease to engage in any licensed activity involving the radioactive sources except to keep the radioactive sources under safe and secure storage until determined by PNRI.

(d) The discontinued use of radioactive sources as a result of the expiration of the license shall not relieve the licensee of the responsibility to cause the decommissioning of the facility and termination of the license.

Section 13. ***Renewal of License.***

(a) A request for license renewal shall be made by submitting an original and one copy of PNRI/NRD Form-011, not less than thirty (30) days before the expiration date of the license.

(b) An application for license renewal that is filed less than thirty (30) days before the expiration date of the license shall be subjected to a surcharge equivalent to twenty-five (25) percent of the required license renewal fee. In addition to the written application, the licensee shall submit the following:

(1) A written explanation about the delay in the filing of application;

(2) An assurance that the licensee shall not undertake any principal licensed activity involving the radioactive source after the expiration date of the license; and

(3) An explanation why PNRI should not impose an administrative sanction against the licensee.

(c) If PNRI determines that the licensee's reasons in (b) of this Section are acceptable and safety has not been compromised, the application will be accepted and processed on the condition that the licensee shall not undertake any principal activity involving the licensed radioactive source after the expiration date of the license.

(d) An application for license renewal that is filed in less than thirty (30) days after the expiration date of the license shall be assessed a surcharge equivalent to fifty (50) percent of the prescribed license renewal fee. In addition to the written application, the licensee is required to.

(1) Discontinue any licensed activity until the PNRI has issued a new license;

(2) Ensure that all radioactive materials are safe and secure in their authorized storage locations; and

(3) Submit a written explanation about the delay in the filing of application and the reason why the PNRI should not impose the appropriate administrative action against the licensee.

(e) If an application for license renewal is filed in more than thirty (30) days after the expiration date stated in the license, the PNRI shall cause the temporary cessation of the activity until the PNRI has determined whether or not the application shall be accepted and processed. Upon such order, the licensee shall not undertake any principal licensed activity.

(f) If the license is deemed to have expired and will not be renewed, the licensee shall cease to engage in any licensed activity involving the radioactive source, except to keep the radioactive source under safe and secure storage until the disposition of the radioactive source is determined by PNRI.

(g) The discontinued use of radioactive source(s) as a result of the expiration of the license shall not relieve the licensee of the responsibility to cause the decommissioning of the radiographic exposure device and termination of the license.

(h) Each application for license renewal shall be accompanied by the corresponding license renewal fee and other outstanding regulatory fees in accordance with CPR Part 22, "Fees and Charges for Radioactive Material Licenses and other Related Regulatory Services".

Section 14. ***Termination of License.***

(a) The termination of a license may be initiated at any time at the request of the licensee. If a license is about to expire and the licensee has not requested a renewal of the license within one month after the expiry date, it is assumed that the licensee wishes his license to be terminated and the Institute shall initiate the termination procedure.

(b) Before the license can be terminated, the licensee shall implement its decommissioning plan and shall:

(1) Discontinue performing all activities involving radioactive sources;

(2) Transfer or dispose of all licensed material which are in the licensee's possession in accordance with the regulations;

(3) Assure that no contamination levels in excess of the limits for supervised areas exist in the facilities; and

(4) Assure that the required records are complete and up-to-date.

(c) To be relieved of the responsibility for the material and the other conditions of the license, the licensee shall submit a letter to PNRI containing:

(1) A certified statement that the licensee no longer has possession of any radioactive source that requires a license;

(2) A listing of the radiographic exposure devices containing the depleted uranium (DU) shielding and radioactive sources transferred or disposed of and the person(s) to whom the material was transferred and the method of disposal for each item; and

(3) A certified statement that the facilities are not contaminated.

(d) When these procedures have been satisfactorily completed, PNRI will cause the termination of the license.

Section 15. ***Specific Exemptions.***

The PNRI may, upon application by any licensee or upon its own initiative, grant such exemptions from the requirements of the regulations in this Part as it deems authorized by the Act and will not endanger life, property, and the environment.

II. ADMINISTRATIVE REQUIREMENTS

Section 16. ***Management System.***

(a) The licensee shall develop, implement, and continually improve a management system that defines the responsibilities of all relevant persons and details the requirements for the organization, personnel, equipment, and recordkeeping, as applicable.

(b) The management system shall incorporate procedures for routine internal inspections and audits, as appropriate.

Section 17. ***Internal Inspection Program.***

Each licensee shall submit to PNRI a description of its internal inspection program adequate to ensure that its radiographers and radiographer's assistants comply with regulatory requirements and the licensee's operating and emergency procedures. The internal inspection program shall:

(a) Include observation of the performance of each radiographer and radiographer's assistant during an actual radiographic operation at intervals not to exceed three (3) months;

(b) Provide that, if a radiographer or a radiographer's assistant has not participated in a radiographic operation for more than three (3) months since the last inspection, that worker's performance on his/her next participation in the radiographic operations shall be closely monitored and observed.

Section 18. ***Radiation Safety Program.***

(a) Each licensee shall develop and implement a written radiation safety program that includes provisions for keeping doses ALARA in accordance with CPR Part 3, "Standards for Protection against Radiation".

(b) The radiation safety program shall include a description of functions and program of the organization, notice to workers of the program's existence, functions and responsibilities to help keep equivalent dose ALARA, a review of summaries of occupational doses, radiation safety procedures and safety measures, and continuing education and training for all personnel who work with, or in the vicinity of, radioactive sources.

(c) Each licensee shall review at least annually the content and implementation of its radiation safety program to comply with new regulations and conditions of the license. The licensee shall incorporate changes in radiation safety procedures and measures and submit the revised radiation safety program to PNRI, as applicable.

(d) The radiation safety program shall be integrated into the management system.

Section 19. ***Radiation Safety Committee.***

(a) The licensee shall establish a Radiation Safety Committee (RSC) that oversees the implementation of the Radiation Safety Program.

(b) The Committee shall be composed of at least RPO, radiographer and a management representative. Other members may be included as the licensee deems appropriate.

(c) The Committee shall undertake the following:

(1) Establish a program for the conduct of meetings, maintenance of records and submission of reports to PNRI.

(2) Meet at least annually and keep the minutes of the meeting for inspection by PNRI.

(3) Review at least annually, with the assistance of the RPO, a summary of the occupational radiation dose records of all workers involved in radiographic operations; and

(4) Provide the PNRI a report on their accomplished activities as a prerequisite to the renewal of license.

Section 20. ***Radiation Protection Officer (RPO) and Assistant Radiation Protection Officer (ARPO).***

(a) Each licensee shall designate a Radiation Protection Officer (RPO) and an Assistant Radiation Protection Officer (ARPO), both of whom must be qualified radiographers.

(b) The ARPO shall take over the duties and responsibilities of the RPO, in the absence of the latter.

(c) The licensee shall provide the RPO sufficient authority, organizational freedom, and management prerogative to:

(1) Identify radiation safety problems;

(2) Initiate, recommend, or provide corrective actions; and

(3) Verify implementation of corrective actions.

(d) The licensee shall establish and state in writing the authorities, duties and responsibilities of the RPO.

Section 21. ***Duties and Responsibilities of RPO and ARPO.***

The specific duties and authorities of the RPO and ARPO shall include, but are not limited to:

(a) The RPO shall ensure that radiation safety activities are being performed in accordance with approved procedures and regulatory requirements in the daily operation of the licensee's program.

(b) The RPO shall conduct an inspection program of the job performance of each radiographer and radiographer's assistant to ensure that PNRI regulations, license condition, and the applicant's operating and emergency procedures are followed.

(c) The RPO shall serve as the licensee's liaison with the PNRI on matters affecting the safety and security of licensed activities;

(d) The RPO shall establish and oversee all operating, emergency, and ALARA procedures as required by CPR Part 3, and shall review them regularly to ensure that the procedures in use conform to current CPR Part 3 procedures, conform to other PNRI regulations and to the license conditions.

(e) The RPO shall oversee and approve all phases of the training program for radiographic personnel, ensuring that appropriate and effective radiation protection practices are taught;

(f) The RPO shall ensure that required radiation surveys and leak tests are performed and documented in accordance with the regulations, including any corrective measures when levels of radiation exceed established limits;

(g) The RPO shall ensure that personnel monitoring devices are calibrated and used properly by occupationally-exposed personnel, that records are kept of the monitoring results, and that timely notifications are made as required by Section 51 of this Part;

(h) The RPO shall ensure that operations are conducted safely and to assume control for instituting corrective actions including stopping of operations when necessary;

(i) The RPO shall ensure the effective implementation of the source security programs in accordance with approved procedures and the regulatory requirements;

(j) The RPO shall establish and maintain a quality assurance records system as part of the management system; and

(k) The RPO shall ensure that safety and security culture is fostered and maintained.

Section 22. ***Operating and Emergency Procedures.***

(a) The licensee's operating and emergency procedures shall, at least, include instructions in the following:

(1) Appropriate handling and use of radioactive sources, radiographic exposure devices, source changers, and storage containers such that no person is likely to be exposed to radiation doses in excess of the limits established in CPR Part 3;

(2) Methods and procedures for conducting radiation surveys and use of radiation survey and monitoring instruments;

(3) Methods for controlling access to radiographic areas;

(4) Methods and occasions for locking and securing radiographic exposure devices, source changers, transport and storage containers and radioactive sources;

(5) Personnel monitoring and proper use of personnel monitoring devices;

(6) Transporting radioactive sources to field stations in compliance to the applicable requirements of CPR Part 4;

(7) Inspection, maintenance and operability checks of radiographic exposure devices, survey instruments, source changers and storage containers;

(8) Steps that must be taken immediately by radiography personnel in the event a pocket dosimeter is found to be off-scale or an alarm ratemeter alarms unexpectedly;

(9) Minimizing exposure of persons in the event of an accident;

(10) Procedure for notifying proper persons and authorities in the event of an accident;

(11) Source recovery procedure if the licensee performs source recovery;

(12) Maintenance of records;

(13) Measures to prevent theft or unauthorized access of radioactive source and/or device;

(14) Measures for safe and secure storage of radioactive source and device;

(15) Identifying and reporting of noncompliance to the requirements of this Part;

(16) Measures to comply with the incident reporting requirements in accordance with Section 52 of this Part; and

(17) Procedures for leak testing of radioactive sources in accordance with Section 28 of this Part.

(b) The licensee shall maintain copies of current operating and emergency

procedures and shall make them available to PNRI when requested. Copies of the emergency procedures that include the telephone numbers of the RPO, ARPO and other key personnel responsible for response in the event of an emergency shall be posted at conspicuous location in the authorized project sites and offices.

Section 23. ***Lease and/or Rental of Radioactive Source(s) and Radiographic Exposure Device(s).***

(a) No licensee shall lease and/or rent radioactive source(s) and radiographic exposure device(s) without the prior written consent of PNRI, in accordance with Section 11 (b) of this Part.

(b) Before leasing or renting radioactive source and radiographic exposure device to a person licensed by the PNRI, the licensed lessor shall verify that the lessee's license is valid. The licensed lessor shall ensure that for every radiographic exposure device, one (1) operable and calibrated survey instrument and at least two (2) units of direct reading pocket dosimeters are made available to the lessee.

(c) The lessor shall indicate in the request for PNRI consent of the transfer or lease the following information:

(1) Name, address and license number of lessee;

(2) Description of device, material and instruments made available to lessee; including model and serial numbers;

(3) Duration of rental or lease;

(4) Date when the lease agreement will be concluded; and

(5) Copy of lease agreement.

(d) Within ten (10) days after the completion of each lease or rental of radioactive sources and radiographic exposure device, the licensee/lessor shall inform and submit a report to the PNRI.

Section 24. ***Import and Export of Radioactive Sources.***

The licensee intending to import and/or export Category 2 radioactive sources shall apply to PNRI for an authorization and shall receive such authorization prior to import and/or export.

III. TECHNICAL REQUIREMENTS

Section 25. ***Performance Requirements for Radiographic Exposure Device.***

(a) The licensee shall attach to each radiographic exposure device a durable, legible, clearly visible label bearing the following:

(1) Chemical symbol and mass number of the radionuclide in the device;

(2) Initial activity and the date on which this activity was measured;

(3) Model and serial number of the radioactive source;

(4) Model and serial number of radiographic exposure device;

(5) Manufacturer of the radioactive source; and

(6) Licensee's name, address, and telephone number.

(b) Radiographic exposure devices intended for use as Type B transport containers shall meet the applicable requirements of CPR Part 4.

(c) Modification of radiographic exposure devices and associated equipment shall be performed if the design of any replacement component, including source holder, source assembly, controls or guide tubes shall not compromise the design safety features of the system. Whenever an approved modification is performed, a detailed report of the modification shall be submitted to PNRI within thirty (30) days from completion.

(d) In addition to the requirements specified in Paragraphs (a), (b) and (c) of this Section, the following requirements apply to radiographic exposure devices, source assemblies, and associated equipment that allow the source to be moved out of the device for radiographic operations or to source changers:

(1) The coupling between the source assembly and the control cable shall be designed in such a manner that the source assembly will not become disconnected if cranked outside the guide tube. The coupling shall be such that it cannot be unintentionally disconnected under normal and reasonably foreseeable abnormal conditions.

(2) The device shall automatically secure the source assembly when it is cranked back into the fully shielded position within the device. This securing system may only be released by means of a deliberate operation on the exposure device.

(3) The outlet fittings, lock box, and drive cable fittings on each radiographic exposure device shall be equipped with safety plugs or covers which shall be installed during storage and transportation to protect the source assembly from water, mud, sand or other foreign matter.

(4) The guide tube shall have passed the crushing tests for the control tube and a kinking resistance test that closely approximates the kinking forces likely to be encountered during use.

(5) Guide tubes shall be used when moving the radioactive source out of the device.

(6) An exposure head or similar device shall be attached to the end of the outermost guide tube to prevent the source assembly from passing out of the end of the guide tube during radiographic operations.

(7) The guide tube exposure head connection shall be able to withstand the tensile test for control units.

(8) Source changers shall provide a system for ensuring that the source will not be accidentally withdrawn from the changer when connecting to or disconnecting the drive cable from a source assembly.

(e) The licensee shall show results of any test conducted and the basis for compliance of the test.

Section 26. ***Limits on External Levels of Radiation from Radiographic Exposure Devices and Storage Containers.***

(a) Radiographic exposure devices measuring less than 10 cm from the radioactive source storage position to any exterior surface of the device shall have no radiation level in excess of 0.5 mSv/hr at 15 cm from any exterior surface of the device and 0.1 mSv/hr at 1 meter from any exterior surface.

(b) Radiographic exposure devices measuring 10 cm or more from the radioactive source storage position to any exterior surface of the device, and all storage containers for radioactive sources or for radiographic exposure devices, shall have no radiation level in excess of 2 mSv/hr at any exterior surface and 0.1 mSv/hr at 1 meter from any exterior surface.

(c) The radiation levels specified in this Section are measurements taken while the radioactive source is in shielded (*i.e.*, “off”) position.

Section 27. ***Locking of Radiographic Exposure Devices, Storage Containers and Source Changers.***

(a) Each radiographic exposure device shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the radioactive source from its shielded position. The exposure device or its container shall be kept locked when not under the direct surveillance of a radiographer. If a keyed-lock is used, the key shall be removed at all times after locking. In addition, during radiographic operations the radioactive source assembly shall be secured in the shielded position each time the source is returned to that position.

(b) Each radioactive source storage container and source changer shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the radioactive source from its shielded position. Storage containers and source changers shall be kept locked when containing radioactive sources except when under the direct surveillance of a radiographer. If a keyed-lock is used, the key shall be removed at all times after locking. Source changers shall be provided with a system for assuring that the source will not be accidentally withdrawn from the changer when connecting or disconnecting the control cable to or from a source assembly.

Section 28. ***Leak Testing of Radioactive Source.***

(a) Each radioactive source shall be tested for leakage at intervals not to exceed six (6) months. If a leak test compliance certificate is not provided by a transferor, which will show that a test had been conducted within six (6) months prior to the transfer, the radioactive source shall be leak tested before use. Radioactive sources that are in storage and not in use do not require leak testing but shall be leak tested before use or transfer to another person.

(b) If the licensee performs the entire leak test procedure, the licensee shall describe and submit the procedure for taking the test sample and the instrumentation that will be used for measurement for approval by PNRI.

(c) If the licensee avails itself of or engages the services of a service provider licensed by PNRI for leak testing of sealed sources, the name, address and PNRI license number of the service provider shall be specified and submitted to PNRI.

(d) If the licensee intends to use a commercial leak test kit, the kit model number and the name, address, and license number of the kit supplier shall be specified.

Section 29. ***Replacement of Radioactive Sources.***

(a) The replacement of any radioactive source contained in a radiographic exposure device, shall be performed only by persons specifically authorized to do so by PNRI.

(b) Each source assembly shall have a durable, legible, visible label, attached or engraved, with the words: "DANGER - RADIOACTIVE". The label shall not interfere with the safe operation of the radiographic exposure device or associated equipment.

Section 30. ***Visual and Operability Checks of Radiographic Exposure Devices, Associated Equipment, Transport and Storage Containers, Source Changers, and Radiation Survey Instruments***

(a) The licensee shall perform visual and operability checks on radiographic exposure devices, associated equipment, transport and storage containers, source changers, and radiation survey instruments before use on each day the radiographic exposure device is to be used.

(b) If problems in the radiographic exposure device are found, it must be removed from service until repaired.

(c) The licensee shall perform the survey instruments operability check using check sources or other appropriate means.

(d) The licensee shall establish checklist to be used for the visual and operability checks. The checklist shall be accomplished by the radiographers accordingly.

(e) The licensee shall maintain records of such checklist until PNRI authorizes disposal.

Section 31. ***Inspection and Maintenance of Radiographic Exposure Devices, Associated Equipment, Transport and Storage Containers, and Source Changers***

Each licensee shall have written procedures for inspection and routine maintenance of radiographic exposure devices, associated equipment, transport and storage containers, and source changers before first use and, thereafter, at intervals not to exceed three (3) months. If problems in the radiographic exposure device or the other equipment are found, it shall be removed from service until repaired. Replacement components shall meet design specifications.

Section 32. ***Transport of Radioactive Source Contained in a Radiographic Exposure Device and/or Source Changer.***

The licensee shall not transport or cause the transport of any radioactive source contained in a radiographic exposure device and/or source changer outside of the confines of the facility or other authorized location, or deliver or cause the delivery of any radioactive source contained in a radiographic exposure device and/or source changer to a carrier, unless the licensee is authorized by PNRI and complies with the requirements of CPR Part 4, CPR Part 27 and the rules and regulations of other government agencies that govern the means of transport.

Section 33. ***Permanent Radiographic Installations.***

(a) Each high radiation area in the permanent radiographic installations shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "CAUTION HIGH RADIATION AREA" in accordance with CPR Part 3.

(b) Each entrance or personnel access point to the high radiation area shall be:

(1) Equipped with a control device which shall cause the level of radiation to be reduced below that at which an individual might receive a dose of 1 mSv in 1 hour upon entry into the area; or

(2) Equipped with a control device which shall energize a conspicuous visible or audible warning signal to warn of the presence of radiation. The visible signal shall be actuated by radiation whenever the source is exposed. The audible signal shall be actuated when an attempt is made to enter the installation while the source is being exposed; or

(3) Maintained locked except when access to the area is required and authorized, with positive control over each individual entry.

(c) The control devices required by Subsections (b)(1) and (b)(2) above shall be tested prior to the first use of the source in the installation and at intervals not to exceed three months thereafter. Records of the tests shall be kept for three (3) years.

(d) In the case of a radiographic installation where high radiation area is established for a period of thirty days or less, direct surveillance to prevent unauthorized entry may be substituted for the controls required by Paragraph (b) of this Section.

Section 34. ***Industrial Radiographic Operation at Field Stations or Temporary Jobsites.***

(a) Before conducting radiography at field stations or temporary jobsites, the licensee shall:

(1) Follow any work permit system of the client. The radiographers shall be aware of any site-specific hazards.

(2) Provide the client a copy of their organization’s local rules and emergency plans.

(3) Coordinate with the client on the selection of a suitable location and time for the radiography work to be carried out. The licensee shall ensure that the client allows sufficient time for the radiographers to perform radiographic operations safely;

(4) Notify the client on the type of radiation source that will be used at the jobsites;

(5) Inform the client on the notices, warning signals and alarms to be used to avoid possible confusion on the jobsite, while remaining consistent with the regulatory requirements; and

(6) Seek information from the client on any radiation detection systems within the jobsite, such as, but is not limited to, some types of smoke detector, that may be affected by radiographic operations.

(b) Whenever radiography is performed at field stations or temporary jobsites, the radiography team shall at least be composed of a radiographer and a radiographer's assistant. The radiographer shall also observe the operations in accordance with Section 22 of this Part and shall be capable of providing immediate assistance to prevent unauthorized entry. Radiography shall not be allowed if only one worker is present.

(c) The licensee shall ensure the safety and security of radioactive sources stored or located at the field station or temporary jobsite in accordance with CPR Part 26.

(d) When a vehicle is used as storage for radioactive sources, the necessary protective measures to secure the radioactive sources shall meet the specific requirements of CPR Part 26 and Part 27.

IV. SECURITY OF RADIOACTIVE SOURCES

Section 35. ***Security Requirements.***

(a) The licensee shall develop and implement a written source security program and designate a Security Manager in accordance with the requirements of CPR Part 26, "Security of Radioactive Sources", for Security Level B/Source Category 2 radioactive sources.

(b) The responsibilities of the Security Manager shall be in accordance with the requirements of CPR Part 26.

Section 36. ***Training on Security of Radioactive Sources.***

The licensee shall require each worker who are authorized to handle radioactive sources contained in radiographic exposure devices to have completed a training on security of radioactive sources, as approved by PNRI.

V. PRECAUTIONARY PROCEDURES IN RADIOGRAPHIC OPERATIONS

Section 37. ***Posting.***

All areas in which radiography is being performed shall be conspicuously posted with signs bearing the radiation symbols and the words: "CAUTION (or DANGER) RADIATION AREA" and those which are high radiation areas shall be conspicuously posted with signs having the radiation caution symbol and the words: "CAUTION (or DANGER) HIGH RADIATION AREA".

Section 38. ***Radiation Survey Instruments.***

(a) A calibrated and operable radiation survey instrument capable of measuring a range of 0.02 mSv/hr through 10 mSv/hr with an accuracy of plus or minus twenty percent (+/- 20%) of the true radiation dose rate shall be available for every radiographic exposure device at each location where radiographic operations are being performed. A similar radiation survey instrument shall also be available at the storage area, whenever a radiographic exposure device, a storage container, or source is placed in storage;

(b) Each radiation survey instrument shall be calibrated and operable to perform physical radiation surveys required by this Part and CPR Part 3.

(c) Each radiation survey instrument shall be calibrated at intervals not to exceed six (6) months and after each repair and maintenance of the instrument or as may be determined by PNRI.

Section 39. ***Radiation Surveys.***

The licensee shall ensure that:

(a) A survey with a calibrated and operable radiation survey instrument is made before, during and after each radiographic exposure. When surveying the radiographic exposure device, the entire circumference of the device shall be surveyed. If the device has a source guide tube, the survey must include the guide tube;

(b) A survey with a calibrated and operable radiation survey instrument shall be made at any time a radiographic exposure device is placed in a storage area, to determine that the radioactive source is in its shielded position. The entire circumference of the radiographic exposure device must be surveyed;

(c) A survey with a calibrated and operable radiation survey instruments shall be made at any time a radiographic exposure device is being transported to determine that the radioactive source is in its proper position. The entire circumference of the radiographic exposure device must be surveyed.

Section 40. ***Personnel Monitoring and Alarm Ratemeter.***

(a) The licensee shall not permit any worker to act as a RPO, ARPO, radiographer, or radiographer's assistant at all times during radiographic operations, unless each worker wear on the trunk of the body a direct reading pocket dosimeter or similar device, alarm ratemeter and a TLD or OSL or any similar personal dosimeters.

(b) Direct reading dosimeters shall have a range from zero to at most 2 mSv and shall be recharged at the start of each radiographic operation.

(c) Each TLD or OSL shall be assigned to and worn by only one worker for the monitoring period the dosimeter was issued. The licensee shall return each dosimeter to the service provider after every monitoring period for dose reading.

(d) Direct reading dosimeters such as pocket dosimeters or electronic personal dosimeters shall be read and recorded at the beginning and end of each use by the particular worker. Pocket dosimeters or electronic personal dosimeters shall be checked and calibrated for correct response to radiation at periods not to exceed one (1) year. Acceptable dosimeters must read within plus or minus twenty percent (+/- 20%) of the true radiation exposure. An electronic direct reading dosimeter with alarm feature may also be used as personal alarm monitor provided that it has been calibrated as such accordingly.

(e) If a worker's direct reading dosimeter is off-scale and the possibility of an overexposure might have occurred, his/her TLD or OSL shall be immediately sent for processing to an authorized service provider.

(f) Each alarm ratemeter shall:

(1) Be checked to ensure that the alarm functions properly prior to use at the start of each shift;

(2) Be set to give an alarm signal at a preset dose rate of 5 mSv/hr with an accuracy of plus or minus twenty percent (+/- 20%) of the true radiation dose rate;

(3) Be set to give an alarm signal at a preset accumulated dose of 2 mSv;

(4) Require special means to change the preset alarm function; and

(5) Be calibrated at periods not to exceed one (1) year. Acceptable ratemeters must alarm within plus or minus twenty percent (+/- 20%) of the true radiation dose rate.

VI. TRAINING AND EXPERIENCE REQUIREMENTS

Section 41. ***Qualification and Training of RPO and ARPO.***

(a) The minimum qualification, training, and experience for RPOs and ARPOs for industrial radiography are as follows:

(1) Completion of the training and testing requirements of Section 42;

(2) 2000 hours of hands-on experience as a radiographer in radiographic operations; and

(3) Formal training in the establishment and maintenance of a radiation safety program.

(b) The PNRI will consider alternatives when the proposed RPO and ARPO have appropriate training and/or experience in the field of ionizing radiation, and in addition, have adequate formal training with respect to the establishment and maintenance of a radiation safety protection program.

Section 42. ***Training and Experience of Radiographer and Radiographer's Assistant.***

(a) The licensee shall permit any worker to act as a radiographer provided that the worker:

(1) Has received training in the subjects in Paragraph (c) of this Section and is certified through a radiographer certification program by an independent certifying body in accordance with the criteria specified in Appendix A of this Part. Radiographers already authorized in a PNRI Radioactive Material License issued prior to date of effectivity of this Part will continue to be authorized radiographers and shall not be covered by the new requirement on certification by an independent certifying body.

(2) Has received training in the subjects in Paragraph (c) of this Section.

(3) Has received training in the requirements contained in this Part and in the applicable Sections of CPRs Part 3, Part 4, Part 26 and Part 27, the conditions of the license(s) under which the radiographer will perform radiography and the licensee's operating and emergency procedures.

(4) Has demonstrated understanding of the licensee's license and operating and emergency procedures by successful completion of a written or oral examination covering this material.

(5) Has received training in the use of the licensee's radiographic exposure devices and radioactive sources, in the daily inspection of devices and associated equipment, and in the use of radiation survey instruments.

(6) Has demonstrated understanding of the use of radiographic exposure devices, radioactive sources, survey instruments and associated equipment described in Paragraph (a)(4) of this Section by successful completion of a practical examination covering this material.

(b) The licensee shall permit any worker to act as a radiographer's assistant provided that the worker:

(1) Has received training in the subjects in Paragraph (c) of this Section.

(2) Has received trainings in the requirements contained in this Part and in the applicable Sections of CPRs Part 3, Part 4, Part 26 and Part 27, the conditions of the license under which the radiographer will perform radiography and the licensee's operating and emergency procedures.

(3) Has developed competence to use, under the personal supervision of the radiographer, the radiographic exposure devices, radioactive sources, associated equipment, and radiation survey instruments that the assistant will use; and

(4) Has demonstrated understanding of the trainings provided under Paragraph (c)(2) of this Section by successfully completing a written test on the subjects covered, and has demonstrated competence in the use of the radiographic exposure devices, radioactive sources, associated equipment, and radiation survey instruments described in Paragraph (b)(3) of this Section by successful completion of a practical examination on the use of radiographic exposure devices, radioactive sources, associated equipment, and radiation survey instruments.

(c) The licensee shall include the following subjects in the training required in Paragraph (a) of this Section:

(1) Fundamentals of radiation safety including:

(i) Characteristics of gamma radiation;

(ii) Units of radiation dose and quantity of radioactivity;

(iii) Hazards of exposure to radiation;

(iv) Levels of radiation from radioactive source; and

(v) Methods of controlling radiation dose (time, distance, and shielding);

(2) Radiation detection instruments including:

(i) Use, operation, calibration, and limitations of radiation survey instruments;

(ii) Survey techniques; and

(iii) Use of personnel monitoring devices;

(3) Equipment to be used including:

(iv) Operation and control of radiographic exposure device, remote handling tools, and storage containers, including pictures or models of source assemblies (pigtails).

(v) Storage, control, and disposal of radioactive source; and

(vi) Inspection and maintenance of radiographic exposure device and associated equipment;

(4) The requirements as stated in pertinent PNRI regulations; and

(5) Case histories of accidents in radiography.

Section 43. ***Supervision of Radiographer's Assistant.***

(a) The radiographer shall personally supervise the radiographer's assistant whenever the radiographer's assistant uses radiographic exposure devices, source changers, storage containers, radioactive sources or related source handling tools, or conducts radiation surveys to determine that the radioactive source has returned to the shielded position after an exposure.

(b) Personal supervision shall include:

(1) The physical presence of the radiographer at the site where the radioactive sources are being used;

(2) The availability of the radiographer to give immediate assistance, if required; and

(3) The direct observation by the radiographer of the radiographer's assistant's performance of the operations referred to in this Section.

Section 44. ***Retraining.***

The licensee shall require the RPO, ARPO, radiographers, and radiographer's assistants to undertake a refresher course on radiation safety every three (3) years and a retraining course as determined by PNRI.

VII. WASTE MANAGEMENT AND DISPOSAL OF DISUSED SOURCES

Section 45. ***Management of Disused Sealed Radioactive Sources.***

(a) Each licensee shall dispose of disused radioactive sources only:

(1) By transfer to a recipient authorized by PNRI;

(2) By return of disused source to the original supplier or manufacturer; or

(3) By disposal as radioactive waste in accordance with an approved radioactive waste management program.

(b) Each licensee shall submit to PNRI for review and approval the disposal plan for radiographic exposure device containing depleted uranium (DU) shielding.

Section 46. ***Transfer of Disused Sealed Radioactive Source.***

(a) A licensee may transfer disused sources to another licensee authorized by PNRI to receive the source for another purpose given its current activity level.

(b) No licensee shall transfer disused sources to another licensee unless:

(1) He has notified and has received authorization from PNRI about the transfer;

(2) He has submitted to PNRI appropriate information that includes;

(i) licensee's (transferee) name, address and license number; and

(ii) type, form and quantity of radioactive material to be transferred.

Section 47. ***Return of Disused Radioactive Sources to the Original Supplier or Manufacturer.***

(a) Each licensee shall keep current its special agreement with the supplier of the source for the return of disused sources to the original supplier or manufacturer of the source in the country of origin. A copy of such agreement including any updates or amendments shall be submitted to PNRI.

(b) The disused radioactive sources shall be shipped in accordance with the packaging and shipping requirements specified in CPR Part 4 entitled "Regulations for the Safe Transport of Radioactive Materials in the Philippines".

(c) The licensee shall return the disused radioactive sources to the original supplier or manufacturer in accordance with Section 24 of this Part.

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VIII. RECORDS, REPORTS, AND NOTIFICATIONS

Section 48. ***Inventory of Radioactive Sources and Radiographic Exposure Devices.***

(a) The licensee shall maintain records of the quarterly inventory of radioactive sources and of devices containing depleted uranium (DU) shielding and shall retain each record for three (3) years.

(b) The records shall include the date of the inventory, name and signature of the worker conducting the inventory, radionuclide, number of becquerels or mass (for DU) in each device, location of radioactive source and/or devices, and manufacturer, model, and serial number of each radioactive source and/or device, as appropriate.

Section 49. ***Utilization Logs.***

(a) Each licensee shall maintain current logs, showing for each radioactive source the following information:

(1) A description, including the manufacturer, model number and serial number of the radiographic exposure device or storage container in which the radioactive source is contained;

(2) The identity and signature of the assigned radiographic testing team composed of radiographer and radiographer's assistant; and

(3) The jobsite or location where it was used and dates of use, including the dates when the source is removed and returned to storage.

(b) The logs required by this Section shall be kept available for three (3) years from date of the recorded event, for inspection by the PNRI at the address specified in the license.

Section 50. ***Recordkeeping Requirements.***

(a) The licensee shall maintain and retain records specified in this Part or as may be required by PNRI.

(b) The licensee shall maintain a copy of its license, license conditions, documents incorporated by reference, and amendments to each of these items until superseded by new documents approved by PNRI, or until PNRI terminates the license.

(c) The licensee shall maintain and retain records showing the receipts and transfers of radioactive sources and radiographic exposure devices for three (3) years. These records must include the date, the name of the worker making the record, radionuclide, number of becquerels or mass (for DU), and

manufacturer, model, and serial number of each radioactive source and/or device, as appropriate.

(d) The licensee shall maintain records of each radiation survey instruments calibration and retain for three (3) years.

(e) The licensee shall maintain records of swipe test results for radioactive sources. The licensee shall retain each record for three (3) years or until the source in storage is removed.

(f) The licensee shall maintain records of each of radiographic exposure device, associated equipment and other equipment used in radiographic operations, and retain for five (5) years:

(1) Modification or any test performed in accordance with Section 25(c) of this Part;

(2) Problems found in daily checks and quarterly inspections and maintenance of radiographic exposure devices, associated equipment and other equipment as specified in Sections 30 and 31 of this Part; and

(3) The record must include the date of check or inspection, name and signature of inspector, equipment involved, defects or problems found, and details of repair and/or maintenance, if any, was done.

(g) The licensee shall maintain the records of refresher course attended by each radiographer and each radiographer's assistant, as required by Section 41 of this Part, for three (3) years:

(h) The licensee shall maintain a copy of current operating and emergency procedures until PNRI terminates the license. The previous records shall be retained for three (3) years.

(i) The licensee shall maintain the records of radiation surveys, including the dose mapping of the exposure area, as required by Section 39 of this Part, for three (3) years.

(j) The licensee shall maintain inspection records on the performance of radiographers or radiographer's assistant, as required by Section 17 of this Part, for three (3) years.

(k) The licensee shall maintain records of annual total radiation exposure of each monitored worker, as required by Section 40 of this Part. The licensee shall also maintain records of five-year average exposure of each monitored worker, as applicable. Personnel monitoring records shall be made available to the PNRI for inspection or upon request and shall be kept and preserved until the PNRI authorizes their disposition.

Section 51. ***Reports of Personnel Exposure.***

(a) The licensee shall furnish a report referring to employee's total radiation exposure during the period of employment or work assignment in the licensee's facility whenever termination of employment has made. Such report shall be furnished within thirty (30) days after the exposure of the employee has been determined by the licensee or ninety (90) days after the date of termination of employment or work assignment.

(b) At the request of an employee, each licensee shall furnish a report of the employee's total exposure to radiation as shown in records maintained by the licensee.

Section 52. ***Incident Reports.***

(a) Each licensee shall notify PNRI by telephone or by any other fast means of communication within twenty-four (24) hours, followed by a detailed written report submitted to PNRI within thirty (30) days of the occurrence of any of the following incidents involving radiographic operations, but not limited to:

(1) Unintentional disconnection of the source assembly from the control cable;

(2) Inability to retract the source assembly to its fully shielded position and secure it in this position;

(3) Failure of any component that are critical to safe operation of the device to properly perform its intended function;

(4) Overexposure of personnel;

(5) Failure or malfunction of survey instruments during radiographic operation; and

(6) Occurrence of fire during radiographic operation.

(b) The licensee shall include the following information for each report submitted under Paragraph (a) of this Section:

(1) A description of the incident; include the readings from the survey instruments or pocket dosimeters.

(2) Cause of incident, if known;

(3) Manufacturer and model number of radiographic exposure device involved in the incident;

(4) Place, time and date of incident;

(5) Actions taken to establish normal operations;

(6) Corrective actions taken or planned to prevent recurrence;

(7) Qualifications of personnel involved in the incident; and

(8) Reports of overexposure.

(c) Each licensee shall immediately report to PNRI the occurrence of bankruptcy, labor strike, fire, floods, earthquake and other natural calamities that may compromise the safety and security of the radioactive sources and radiographic exposure devices.

Section 53. ***Report of Theft or Loss of Radioactive Sources.***

(a) Each licensee shall notify PNRI by telephone or by any other fast means of communication within twenty-four (24) hours, of any lost, stolen, or missing radioactive sources.

(b) In addition to the report required in this Section, each licensee shall, within thirty (30) days after the occurrence of the theft or loss of the radioactive source, report in writing to PNRI. The written report shall include the following information:

(1) Description of the radioactive sources involved (i.e., isotope, quantity, chemical, and physical forms);

(2) Description of the circumstances under which the loss or theft occurred;

(3) A statement of disposition or probable disposition of the radioactive sources involved;

(4) Any report filed with PNRI pursuant to this Section shall identify the individuals who may have exposed to radiation or may be involved in the incident;

(5) Actions which have been, taken or will be taken, to recover the radioactive source; and

(6) Procedures and measures to be adopted to prevent recurrence of the circumstances which led to the loss or theft of the radioactive source.

(c) Subsequent to filing the written report, the licensee shall also report to PNRI any additional information which becomes available to the licensee.

IX. INSPECTION AND ENFORCEMENT

Section 54. ***Inspections.***

(a) Each licensee shall allow authorized PNRI inspectors to enter its premises at all reasonable times and perform such inspections as may be necessary,

announced or unannounced, of the radioactive sources in possession and the premises, equipment and facilities where radioactive sources are used or stored.

(b) During such inspections, the licensee shall make available to PNRI inspectors all relevant records kept pursuant to these rules and regulations at the location specified in the license.

Section 55. ***Violations.***

A notice of violation shall be issued if the licensee is found to have violated any rules, regulations, or orders issued by PNRI; or any terms, conditions, or limitations of any license issued thereunder.

Section 56. ***Modification and Revocation of License.***

(a) The terms and conditions of each license issued pursuant to the regulations in this Part shall be subject to amendment, revision or modification by reason of amendments to these regulations and the Act, or by reason of rules, regulations and orders issued by the PNRI in accordance with the terms of the Act.

(b) Any license may be revoked, suspended or modified, in whole or in part, for any material false statement in the application, or for violation of, or failure by the licensee to observe, any of the terms and conditions of the license or any of the provisions of the Act, or any of the rule, regulation or order of the PNRI.

(c) Except in cases of willful violation or where immediate action is required in order to protect public health and safety or the security of the source, no order for the suspension, modification or revocation of license shall become effective until the licensee shall have been afforded the opportunity be heard.

(d) A license maybe modified by PNRI, or upon the request of the licensee, when:

(1) The licensee decides to discontinue any specific licensed activity authorized in the license or requests for another authorization to undertake another licensed activity prescribed in this Part;

(2) PNRI determines that the licensee can no longer perform the specific licensed activity authorized in the license; or

(3) The licensee has ceased to perform a principal licensed activity during a two (2) year period.

(e) Any person who willfully violates, attempts to violate or conspires to violate any rule or regulation or order issued hereunder, may be guilty of a crime, and upon conviction, may be punished by a fine or imprisonment or both as provided by Sections 64 and 65 of Republic Act No. 5207, as amended.

Section 57. ***Right to Take Temporary Custody of Radioactive Source.***

The PNRI may, if necessary to protect public health and safety or the national interest, take temporary custody of any radioactive source held by the licensee pending its appropriate and lawful disposition by or for the licensee.

X. EFFECTIVITY

Section 58. ***Effective Date.***

The regulations in this Part shall take effect fifteen (15) days following the publication in the Official Gazette.

APPROVED:

CARLO A. ARCILLA, Ph.D.
Director, PNRI

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APPENDIX A

RADIOGRAPHER CERTIFICATION

I. Requirements for an Independent Certifying Body

An independent certifying body shall:

1. Be an organization such as a society or association, whose members participate in, or have an interest in, the fields of industrial radiography;

2. Make its membership available to the general public nationwide that is not restricted because of race, color, religion, sex, age, national origin or disability;

3. Have a certification program open to nonmembers, as well as members;

4. Be an incorporated, nationally recognized organization, that is involved in setting national standards of practice within its fields of expertise;

5. Have an adequate staff, a viable system for financing its operations, and a policy- and decision-making review board;

6. Have a set of written organizational by-laws and policies that provide adequate assurance of lack of conflict of interest and a system for monitoring and enforcing those by-laws and policies;

7. Have a committee, whose members can carry out their responsibilities impartially, to review and approve the certification guidelines and procedures, and to advise the organization's staff in implementing the certification program;

8. Have a committee, whose members can carry out their responsibilities impartially, to review complaints against certified individuals and to determine appropriate sanctions;

9. Have written procedures describing all aspects of its certification program, maintain records of the current status of each individual's certification and the administration of its certification program;

10. Have procedures to ensure that certified individuals are provided due process with respect to the administration of its certification program, including the process of becoming certified and any sanctions imposed against certified individuals;

11. Have procedures for proctoring examinations, including qualifications for proctors. These procedures must ensure that the individuals proctoring each examination are not employed by the same company or corporation (or a wholly-owned subsidiary of such company or corporation) as any of the examinees;

12. Exchange information about certified individuals with the PNRI and other independent certifying organizations and allow periodic review of its certification program and related records; and

13. Provide a description to the PNRI of its procedures for choosing examination sites and for providing an appropriate examination environment.

II. Requirements for Certification Programs

All certification programs must:

1. Require applicants for certification to (a) receive training in the topics set forth in Section 19(c), and (b) satisfactorily complete a written examination covering these topics;

2. Require applicants for certification to provide documentation that demonstrates that the applicant has: (a) received training in the topics set forth in Section 19 (c) or equivalent, and (b) satisfactorily completed a written examination covering these topics;

3. Include procedures to ensure that all examination questions are protected from disclosure;

4. Include procedures for denying an application, revoking, suspending, and reinstating a certificate;

5. Provide a certification period of not less than 3 years nor more than 5 years;

6. Include procedures for renewing certifications and, if the procedures allow renewals without examination, require evidence of recent full-time employment and annual refresher training; and

7. Provide a timely response to inquiries, by telephone or letter, from members of the public, about an individual's certification status.