

**Abbreviations**  
RP - Radiation Protection  
SCA - Safety and Control Area  
LC - Licence Condition

GN - General Nuclear Safety and Control  
SSR-6 - IAEA Safety Standards 2012 Edition  
PTNS, 2015 - Packaging and Transport of Nuclear  
Substances, 2015  
TDG - Transport of Dangerous Goods Regulations

NSCA - Nuclear Safety and Control Act  
NSRD - Nuclear Substances and Radiation Devices  
CII - Class II Nuclear Facility and Prescribed Equipment

## Type II Inspection Worksheet

### Use Type: 812 - industrial radiography

Licensee:	Report Number:		
Licence Number:	Inspection Date:		
Address:	Inspector Name:		
City:	Province:	Postal Code:	Use Type Number: 812
Person Seen:	Phone Number:	Risk Group: 3.00	

Description	Regulatory Requirements	Compliance Expectations	Risk
<b>Work Doc: 1 TII - Records</b>			
Change notified	GN 15 (c)	Changes of personnel responsible for management and control of licensed activity (RSO, Applicant Authority and Signing Authority) have been reported to the CNSC within 15 days.	M
Rating:	Comments:		
Inventory	NSRD 36 (1) (a)	A complete nuclear substance and radiation device inventory is available.	M
Rating:	Comments:		
Records retained	NSRD 36 (1) (c), (e), (3), (4)	(1)(c) Records of transfer, receipt, disposal and abandonment are available. (1)(e) Records of inspection, measurement, test and servicing are available. (3), (4) Records of inspection, measurement, test and servicing are kept on file for three years.	L
Rating:	Comments:		
Licence details	NSCA 26	Licence activities are conducted in accordance with the licence.	H
Rating:	Comments:		
Annual Compliance Report	LC 2916	The licensee submits the annual compliance report in the form specified in the appendix of the licence for each year the licence is valid.	M
Rating:	Comments:		
Exposure device records retained	NSRD 37	The following records are maintained: (a) the brand name, model and serial number (b) the quantity (in Bq) (c) dates and locations of use (d) dates of receipt and transfer (e) authorized users (f) authorized workers to perform source changes (g) trainee supervisor acknowledgements (h) inspections and maintenance (i) all submitted records from workers to the licensee.	M
Rating:	Comments:		

**Work Doc: 1 TII - Records**

Source change records	NSRD 34 (1)	Person who performs source change: (1) shall have written authorization from the licensee (refer to NSRD 30 (5)); (2) shall record (a) the device surface dose rates resulting from the source change and (b) the DRD reading; and (3) shall report the dose rate in (2) to the licensee.	M
Rating:	Comments:		
Records retained	GN 28	(2) The CNSC was notified 90 days prior to the disposal of any prescribed records.	L
Rating:	Comments:		
Device certification and transfer	NSRD 11	(1) The radiation device in use is a certified model (unless authorized in the licence). (2) The radiation device transferred to other licensees is a certified model.	H
Rating:	Comments:		
Storage notification	LC 2298-1	Upon requested by the CNSC, the licensee notified the CNSC of the storage site of each nuclear.	M
Rating:	Comments:		
Transfer documents	NSRD 19	(1) A copy of the most recent leak test result is provided for all transfers of radiation devices as well as instructions to follow in the event of an accident. (2) A copy of the most recent leak test result is provided for all transfers of sealed source or nuclear substance used as shielding.	L
Rating:	Comments:		
Authorized transfer	GN 13	All transfers of nuclear substances or radiation devices have been done to authorized licensees.	H
Rating:	Comments:		
Leak test	NSRD 18 (1) (a), (b), (d)	Leak testing is performed at the required frequency following acceptable procedures.	L
Rating:	Comments:		
Leak test/event	NSRD 18 (1) (c)	Leak testing was performed immediately after any event that may have damaged the sealed source(s).	L
Rating:	Comments:		
Failed leak test	NSRD 18 (3)	Appropriate actions were taken upon detection of a leaking source.	M
Rating:	Comments:		
Device accidents	NSRD 21	Any radiation device involved in an accident or incident has been tested/inspected and confirmed to be functioning properly prior to return to use.	H
Rating:	Comments:		
Reportable events	GN 29	Incidents and unplanned events have been immediately reported to the CNSC and a detailed written report was submitted within 21 days (refer to NSRD 38).	H
Rating:	Comments:		

**Work Doc: 1 TII - Records**

Reporting requirements	PTNS 37-38-40	The consignee, the carrier and the consignee must provide an immediate report to CNSC (PTNS 37 (1)) and a 21 day report (PTNS 38) when becoming aware of any of the following situations: - failure to comply with the requirements of section 26; - a conveyance carrying radioactive material is involved in an accident; - package damage or tampering or leaking; - radioactive material lost, stolen or loss of control; - radioactive material has escaped from a containment system, a package or a conveyance during transport; - failure to comply with the Act and Regulations can lead to a situation in which the environment, the health and safety of persons or national security is adversely affected; - the level of non-fixed contamination as defined in the IAEA Regulations, during transport exceeds limits; - licensee has provided reports of damage or tampering discovered while opening packages as per PTNS 40(4), (5), (6).	H
Rating:	Comments:		
Training and sufficient workers	GN 12 (1) (a), (b)	There are (a) a sufficient number of trained and (b) qualified workers to carry on licensed activity.	M
Rating:	Comments:		
Worker records retained	NSRD 36 (1) (b), (d), (2)	(1)(b) The name of each worker who handles nuclear substances and/or radiation devices is recorded. (1)(d) Training records for all workers who handle nuclear substances and/or radiation devices are available. (2) Worker training records are kept on file for three years after termination.	M
Rating:	Comments:		
Appointment of supervisor of trainee	NSRD 32	The licensee has obtained a written consent from any qualified CEDO requested to supervise a named trainee.	M
Rating:	Comments:		
TDG training certificate on file	TDG 6.6, 6.7	A copy of the TDG training certificate is kept on file for two years and is available to the inspector.	M
Rating:	Comments:		
List of NEWs	RP 24	A record including names and job category of each NEW is available.	L
Rating:	Comments:		
Nuclear Energy Workers informed	RP 07	(1) Each NEW has been informed in writing of their NEW designation, of the risks associated with their work, of the regulatory dose limits and of their individual dose. (2) Female NEW has been informed in writing of their rights (RP 07) and obligations (RP 11). (3) A signed acknowledgment form is available for each NEW.	M
Rating:	Comments:		
Ascertainment and recording of doses	RP 05	(1) Personnel doses are ascertained and recorded. (2) Doses are determined by (a) direct measurement or (b) estimation.	H
Rating:	Comments:		
Dose limits/body	RP 13 (1)	Dose limits not exceeded.	H
Rating:	Comments:		
Action Levels	LC 2700	Upon becoming aware of an action level, specified in the Appendix: Licence documents, has been reached the licensee: (a) investigated the situation, (b) took the necessary corrective action, and (c) notified the CNSC within 48 hr.	M
Rating:	Comments:		
Licensed dosimetry	RP 08	A licensed dosimetry service is used where the effective dose of a NEW will likely exceed 5 mSv in a one-year period.	H
Rating:	Comments:		

**Work Doc: 1 TII - Records**

Meter calibrated Rating:	NSRD 20 Comments:	Survey meter that is used has been calibrated within the previous twelve months of its use.	H
Shipping doc kept 2 years Rating:	TDG 3.11 Comments:	Shipping documents used are kept on file for two years.	M
Competent authority certificates Rating:	PTNS 25 (2)(c) Comments:	Consignor has competent authority certificates for applicable sources and packages (refer to SSR-6 561).	M
Type A package certification Rating:	PTNS 42 Comments:	Type A package design, test results and packaging instructions kept on file for two years after last shipment.	H
Act/Regs available Rating:	GN 12 (1) (k) Comments:	A copy of the Act and Regulations (paper or electronic copy) are readily available to all workers.	L
Sealed Source Tracking Rating:	LC 2404-6 Comments:	The CNSC is notified of any transfer, receipt, export or import of a sealed source in accordance with the licence condition.	H
Import Export Restrictions Rating:	LC 2480 Comments:	The licensee is not authorized to import or export all items described in the schedule, Parts A and B, of the Nuclear Non-proliferation Import and Export Control Regulations, and specifically listed in the licence condition.	H
Export restrictions/sealed sources Rating:	LC 2408-8 Comments:	Export of sealed sources is within the limits specified in the licence condition. An export licence has been issued for any exports of sealed sources exceeding the limits specified in the licence condition.	H

**Work Doc: 2 TII - Operation/Storage**

Worker's obligations Rating:	GN 17 Comments:	Every worker: (a) uses equipment, devices, facilities and clothing in a responsible and reasonable manner in accordance with the Act, Regulations and Licence Conditions; (b) complies with procedures and measures established by the licensee; (c) informs the licensee or supervisor of any situation where there may be: (i) an increase in the risk to the environment or the health and safety of persons; (ii) a threat to security; (iii) a failure to comply with regulatory requirements; (iv) sabotage, theft, loss or illegal use or possession of prescribed equipment, or (v) a release into the environment not authorized by the licence; (d) observes and obeys all notices and warning signs; and (e) takes all reasonable precautions to ensure the safety and security of individuals, the environment and the nuclear substances or facilities.	H
Posting of Signs Rating:	RP 21 Comments:	A radiation warning symbol is posted: (a) at the boundary of and at every point of access where there is more than 100 times the Exemption Quantity (EQ) of nuclear substances; or (b) where the radiation dose rate could exceed 0.025 m µSv/h.	H
Contact details posted Rating:	NSRD 23 Comments:	The name or job title and a 24 hr. telephone number are posted in a readily visible location where the nuclear substance is stored or used (refer to RP 21).	H

**Work Doc: 2 TII - Operation/Storage**

Radiation Warning Sign Rating:	RP 22 Comments:	When a radiation warning symbol is used, it is posted in accordance with regulations.	L
Frivolous posting of signs Rating:	RP 23 Comments:	Radiation warning symbols are not posted where there is no radiation, nuclear substance or prescribed equipment.	L
Security indicators Rating:	GN 12 (1) (c), (g), (h), (i), (j) Comments:	Provisions are in place to ensure the security of nuclear substances and radiation devices and the health and safety of persons. This may be achieved through restricted access (for example use of locks, alarms, and security systems) and reporting of incidents including loss, theft and sabotage.	H
Sealed Source Security Requirements Rating:	LC 2490-1 Comments:	Licensees have in place security measures including: -Inventory accounting -Access control measures -Up-to-date security plan -Information security measures -Intrusion detection with monitoring and testing -Response protocol -Secure storage of substances and devices -Security awareness program -Vehicle security measures	H
Post licence Rating:	GN 14 Comments:	(1) A copy of the licence or an appropriate notice is posted in a conspicuous place at the site of the licensed activity. (2) The complete licence is available at field locations.	L
Container/Device labelled Rating:	RP 20 Comments:	Each container or device containing greater than one Exemption Quantity of nuclear substance(s) is labelled with the radiation warning symbol and the required wording.	H
Field devices I.D. Rating:	NSRD 22 Comments:	Device is labelled with contact information including a 24 hour telephone number.	M
Use of equipment & procedures Rating:	GN 12 (1) (e) Comments:	Licensee ensures equipment, clothing and procedures are used appropriately at the site of the licensed activity.	H

Operator obligations	NSRD 31	The operator demonstrates the following requirements are being met: (1) (a & h) a survey meter, meeting required specifications, is used during the operation of the exposure device including to confirm that the sealed source assembly is returned to the shielded position within the exposure device; (b) tongs, shielding, and cutter are available; (c, d, & f) personal monitoring equipment (TLD, DRD, alarming dosimeter) is worn on the trunk of the body; (e) DRD reading is recorded daily; (g) pre-operational function tests are performed; (i) exposure to non-NEW is limited to 0.1 mSv per week and 0.5 mSv per year; (j & k) a signed barrier is established to prevent entry into an area with a dose rate above 0.1 mSv/h (RWS needed at 0.025 mSv/h, refer to RP 21); (l) exposure device is locked when not in use; (m) reporting of incidents; (4) does not use an exposure device that is not functioning properly or has a surface dose rate above 2 mSv/h. (5) radiation dose received during a daily shift does not exceed 2 mSv and if the dose exceeds 2 mSv work is immediately stopped and licensee is notified; and (6) only specially trained personnel (or personnel that are under the guidance of specially trained personnel) are authorized to respond to incidents involving exposure devices (refer to sub-section a) to d) of the present section for details).	H
Rating:	Comments:		
Radiation safety	NSRD 17	Referenced emergency procedures are available to workers at the site of licensed activity.	M
Rating:	Comments:		
CEDO to operate	NSRD 24	The operation of the exposure device is performed by a CEDO or a trainee who is acting under direct supervision and continuous observation of a CEDO.	H
Rating:	Comments:		
Trainee knowledge and supervision	NSRD 33	CEDO maintains continuous and direct supervision of a trainee. The trainee has sufficient knowledge to safely operate the exposure device.	H
Rating:	Comments:		
Storage	LC 2575-2	(a) Access to storage areas containing nuclear substances or radiation devices is restricted to authorized personnel. (b) Dose rates at occupied areas outside storage areas do not exceed 2.5 µSv/hr. (c) Dose limits are not exceeded as a result of nuclear substances or radiation devices in storage.	H
Rating:	Comments:		
Records Requirements-Exposure Devices	LC 2217-1	Prescribed records and operating procedures are maintained at site locations where nuclear substances are used or stored for more than 30 consecutive days.	M
Rating:	Comments:		
Device provided & maintained	GN 12 (1) (d)	Required devices have been provided and have been maintained according to manufacturer's instruction.	M
Rating:	Comments:		
Operation notification	LC 2524-0	The CNSC is notified of each job site when requested.	M
Rating:	Comments:		
Location notification	LC 2300-2	CNSC was informed in writing, within seven days, of sites where licensed activities were conducted for more than 90 days. Discontinuance of such sites was also reported within 7 days.	M
Rating:	Comments:		
Inaccuracies Notification	LC 2920-6	Changes to documents listed in the licence appendix have been reported to the CNSC.	L
Rating:	Comments:		

**Work Doc: 2 TII - Operation/Storage**

Operation Limitations - General Rating:	LC 2917 Comments:	Activities and procedures, as listed in the licence appendix, are followed.	L
Licensee obligations Rating:	NSRD 30 (1), (3), (4), (6) Comments:	The following obligations are met: (1) the device is tagged and locked; (3) a survey meter that meets the requirements, emergency equipment, personal monitoring equipment (TLD, DRD, alarming), radiation warning sign for the 0.1 mSv/h barrier and DRD forms are available; (4) only a functioning exposure device with a surface dose rate less than 2 mSv/h is used; and (6) non-NEW dose is within 0.1 mSv per week and 0.5 mSv per year.	H
ALARA/RP program Rating:	RP 04 (a) Comments:	The licensee has implemented a radiation protection program that keeps doses ALARA and includes: (i) management control over work practices; (ii) personnel qualification and training; (iii) control of occupational and public exposure to radiation; and (iv) planning for unusual situations.	H

**Work Doc: 4 TII - Packaging and Transport**

Transport document requirement Rating:	PTNS 29(1) Comments:	The consignor of radioactive material provides a shipping document that includes the following (refer to TDG 3.5 and SSR-6 546): - consignor and consignee names and addresses; - 24 hour contact number; - number of packages; - UN number*; - shipping name*; - Class # 7*; - radionuclide identification*; - form*; - maximum activity*; - category of package*; - transport index*; - competent authority certificate number(s)*. For consignments of more than one package, the required information (*) must be given for each package. - Consignor's certification with printed name of the consignor - PTNS 25(1), TDG 3.6.1	M
Transport document location Rating:	TDG 3.7 Comments:	Shipping document is located within driver's reach or in a door pocket on the driver's side.	M
Vehicle placarded Rating:	TDG 4.15 Comments:	Vehicle must be placarded on four sides when: - package is III-Yellow 4.16.1(2)(i); - package weight exceeds 500 kg; or - exception of PTNS 28(2)(a) is used.	H
Exposure device exception Rating:	PTNS 28(2)(a) Comments:	Exposure devices transported under section 28(2)(a) do not require labelling in accordance with SSR-6 538 to 540, if the following criteria are met: - the device is certified – PTNS 28(2)(a) and NSRD 30(1)(a); - is transported with goods from one consignor only and in a conveyance that is not carrying passengers; - the package and the overpack, if one is used, are clearly marked with the word "RADIOACTIVE" or "RADIOACTIF" PTNS 28(2)(a)(iii); and - the vehicle displays 4 Class 7 placards - PTNS 28(2)(a)(ii).	M

**Work Doc: 4 TII - Packaging and Transport**

Package secured in vehicle	PTNS 25 (4)	Consignments are segregated and securely stowed (refer to SSR-6 562, 564, 574 - PTNS 25(1) and TDG 5.4). Category II-Yellow and III-Yellow packages are not carried in compartments occupied by passengers - SSR-6 563.	H
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Rating:	Comments:
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Type B package requirements	PTNS 28 (1)	A Type B package must be prepared and labelled in accordance with PTNS 28(1) and associated requirements from SSR-6. Package requirements are as follows:	H
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- name of consignor or consignee on package - SSR-6 531;
- shipping name - SSR-6 532 and TDG 4.11;
- UN number - SSR-6 532 and TDG 4.12;
- "Type B" marking - SSR-6 535 (c);
- fire proof trefoil SSR-6 536;
- competent authority mark - SSR-6 535(a);
- gross mass marked if exceeding 50 kg - SSR-6 533.

If PTNS 28(2)(a) exception is not used the following is required :

- two (I-white, II-Yellow or III-Yellow) labels - SSR-6 538, 539 and TDG 4.6, 4.7, 4.10 which include radionuclide (most restrictive), maximum activity;
- transport index on labels, SSR-6 540;
- package integrity must not be compromised - PTNS 24 and SSR-6 306.

Rating:	Comments:
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Showing proof of TDG training	PTNS 25 (1)	A person handling dangerous goods must provide their training certificate or copy of it to an inspector immediately upon request. TDG 6.8	M
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Rating:	Comments:
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TDG training certificate	TDG 6.1, 6.3, 6.5	The employer is responsible for:	M
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- 6.1(2)(a) ensuring that only an adequately trained worker who holds a valid TDG certificate handle Class 7 dangerous goods ; or
- 6.1 (2)(b) performs those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate in accordance with this Part.
- 6.3 issuing training certificate that includes:
  - the employer's business address;
  - the employee's name;
  - aspects of handling and transporting;
  - employee and employer signatures; and
  - the expiry date of the certificate (TDG 6.5).

Rating:	Comments:
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**Disclaimer - CNSC licensees may use this worksheet voluntarily to ascertain the CNSC's general expectations regarding regulatory requirements. Such requirements would generally be assessed during a Type I and Type II Inspection of licences issued pursuant to the Nuclear Substances and Radiation Devices Regulations. The expectations listed for each regulatory requirement are only provided as a guide. Similar worksheets will be used by CNSC staff for on-site inspections. Inspections, will, however, be carried out on a case-by-case basis in the context of the licensed activities and the circumstances of individual situations. This worksheet is not intended to limit the scope of CNSC inspections or the powers of CNSC inspectors. Licensees should contact the CNSC to obtain information regarding their specific regulatory requirements.**



## APPENDIX A RATING SYSTEM (GRADES)

### **A - Exceeds requirements**

Assessment topics or programs meet and consistently exceed applicable CNSC requirements and performance expectations. Performance is stable or improving. Any problems or issues that arise are promptly addressed, such that they do not pose an unreasonable risk to the maintenance of health, safety, security, environmental protection, or conformance with international obligations to which Canada has agreed.

### **B - Meets requirements**

Assessment topics or programs meet the intent or objectives of CNSC requirements and performance expectations. There is only minor deviation from requirements or the expectations for the design and/or execution of the programs, but these deviations do not represent an unreasonable risk to the maintenance of health, safety, security, environmental protection, or conformance with international obligations to which Canada has agreed. That is, there is some slippage with respect to the requirements and expectations for program design and execution. However those issues are considered to pose a low risk to the achievement of regulatory performance requirements and expectations of the CNSC.

### **C - Below requirements**

Performance deteriorates and falls below expectations, or assessment topics or programs deviate from the intent or objectives of CNSC requirements, to the extent that there is a moderate risk that the programs will ultimately fail to achieve expectations for the maintenance of health, safety, security, environmental protection, or conformance with international obligations to which Canada has agreed. Although the risk of failing to meet regulatory requirements in the short term remains low, improvements in performance or programs are required to address identified weaknesses. The licensee or applicant has taken, or is taking appropriate action.

### **D - Significantly below requirements**

Assessment topics or programs are significantly below requirements, or there is evidence of continued poor performance, to the extent that whole programs are undermined. This area is compromised. Without corrective action, there is a high probability that the deficiencies will lead to an unreasonable risk to the maintenance of health, safety, security, environmental protection, or conformance with international obligations to which Canada has agreed. Issues are not being addressed effectively by the licensee or applicant. The licensee or applicant has neither taken appropriate compensating measures nor provided an alternative plan of action.

### **E - Unacceptable**

Evidence of an absence, total inadequacy, breakdown, or loss of control of an assessment topic or a program. There is a very high probability of an unreasonable risk to the maintenance of health, safety, security, environmental protection, or conformance with international obligations to which Canada has agreed. An appropriate regulatory response, such as an order or restrictive licensing action has been or is being implemented to rectify the situation.

### **N/A – Not applicable**

### **N/C – Not checked**