June 14, 2024

Consultations
Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, ON, K1P 5S9
Submitted via E-mail

RE: Discussion Paper DIS-24-01 Proposals to Amend the Packaging and Transport of Nuclear Substances Regulations, 2015 and the Nuclear Substances and Radiation Devices Regulations

Please find below my comments on the proposed changes to the PTNSR and NSRDR.

Part I: PTNSR 2015

Comment #1
6.9 Proposed amendment: align with requirements to ensure that instruments are properly calibrated.
"Instruments are used to verify dose rates and contamination on packages. It is essential that these instruments be properly calibrated to ensure accurate readings …
Instruments that are not regularly tested and calibrated may result in inaccurate readings.
The CNSC intends to amend the PTNSR 2015 to add a new requirement that all instruments be selected, tested and calibrated prior to being used for packaging and transport."

I agree that all instruments should be tested prior to being used and on a regular basis. But unlike survey meters, I would argue that there is no standard "calibration" for instruments like contamination meters and well counters: each instrument is different and its efficiency for isotopes of interest must be determined prior to use, but if the response of the instrument is consistent over time there is no "re-calibration" that needs to be performed for it (the efficiencies will not change).

I suggest that CNSC be careful with the wording here. Instead of "calibrations" for contamination instruments, the requirement could be to perform routine quality control (QC) to confirm that readings from check sources are within pre-established acceptable levels.

Part II: NSRDR- Proposed Regulatory Amendments and Anticipated Impacts

Comment #2
10.1 New and amending existing definitions: Amending definition of "radiation device"
"…A radiation device is still a radiation device even though it may contain less than the exemption quantity (EQ). As such, the CNSC proposes to amend the definition of a radiation device by relocating the reference "more than an exemption quantity" to the certification section in Section 11 (see below)."

I do not agree with this change, it would have operational and financial implications for minimal impact on safety. Many NM departments have gamma cameras with built-in sealed sources that are deemed to be radiation devices. Currently, a NM department might wait until the source is below 1 EQ to dismantle the housing and dispose of the source. The proposed change would require that these departments now

possess a licence to service the device, or enter into an expensive service contract, even if the source is below 1 EQ and there is minimal safety risk from it.

Comment #3
10.2 Section 2, Application:
"Nuclear substances may be implanted and/or administered to people or animals for medical diagnosis or treatment purposes. These substances can subsist in the person's/animal's remains after death. As a result, the NSRDR would apply to these persons/animals or their remains and a licence would be required.
The CNSC proposes to introduce an exemption so that a licence will not be required."

I am very much in support of this change.

Comment #4
10.7 Subsection 8.1, Check Sources

I am in support of the proposed changes, they will reduce the regulatory burden for check sources.

Comment #5
10.13 Section 20, Radiation Survey Meters:
"The CNSC intends to amend this section to require that instruments used for radiation measurements, such as portable radiation survey and contamination meters and direct reading dosimeters must be calibrated within 12 months preceding their use. This amendment would help to clarify the requirement for persons to ensure that their instrumentation is calibrated prior to being used and aligns with section 25 of the Radiation Protection Regulations."

I disagree with making it a requirement that contamination meters must be calibrated every 12 months. As in my comment #1 above, my main concern is that unlike survey meters, there is no standard calibration response to compare to for contamination meters. The efficiency of every meter is different and it must be determined for the isotopes of interest prior to use. But once this is done, if the performance of the contamination meter is being checked during routine QC (e.g., using a check source and confirming that values are within 20% of baseline values), then there is no "re-calibration" that needs to be performed for it (the efficiency values would not have changed).

Requiring annual calibration for contamination meters would be an unnecessary administrative and financial burden to licensees with no gain in quality control. Alternatively, CNSC might consider requiring that the performance of the contamination meter is measured with a check source as part of routine QC and compared to pre-established acceptable levels.

Comment #6
10.20 SCHEDULE 1 (Section 1 and paragraph 38(1)(e)), Exemption Quantities:
"The CNSC proposes to replace SCHEDULE 1 with an ambulatory incorporation by reference to the exemption quantities set out in IAEA document "Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards General Safety Requirements Part 3 No. GSR Part 3 (2014)". The table is more exhaustive than the current schedule; and, by replacing it with an ambulatory reference, it will preclude the requirement to update the schedule periodically."

I think this will create some confusion and extra work for licensees, who will have to go look at yet another document to find the information that they need. Also, the GSR Part 3 calls these "exempt

activities" instead of "exemption quantities". My suggestion would be to keep the table in the NSRDR, and the GSR Part 3 could still be reference for further isotopes not listed there.

Thank you for the opportunity to comment on this discussion paper.

Sincerely,

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