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Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest

Comment On: NRC-2018-0155-0003

Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest

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General Comment

See attached file(s)

Attachments

Comments on Draft NUREGBR-0204

Draft Guidance: NUREG/BR-0204, Revision 3, “Instructions for Completing U.S. Nuclear Regulatory Commission’s Uniform Low-Level Radioactive Waste Manifest”: Request for Public Comment; 83 Federal Register (FR) 54620; October 30, 2018 and Extension of Comment Period 83 FR 65759; December 21, 2018.

U.S. Army Corps of Engineers (USACE), Comments

NRC Docket ID NRC-2018-0155

Comment 1: Applicability of the NRC Uniform Low-Level Waste Manifest. The instructions to the NRC Form 540 are very clear that the form must be used for disposal of low-level radioactive waste (LLRW) at a licensed land disposal facility. However, the instructions do not acknowledge that the NRC form 540 may also be used or required by a licensed disposal facility for other than LLRW.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Paragraph 1 on Page 6.

Discussion: The instruction for completing the NRC Form 540 states: “NRC Form 540 must be completed for shipments of low-level radioactive waste intended for disposal at a licensed land disposal facility.”

Lack of specificity on the use of the NRC Form 540 for other than LLRW creates some confusion for the radioactive waste industry as some licensed disposal facilities have defaulted to requiring the use of NRC Forms 540, and 541, or their equivalent, for disposal of all wastes sent to their licensed disposal cells under their facility waste acceptance criteria. This includes wastes which are not by definition an LLRW but may be regulated as a DOT Class 7 (Radioactive) Material, a DOT Class 9 (e.g. reportable quantity of radionuclides), or remediation waste not considered radioactive or a hazardous material by DOT but must be disposed in an appropriate disposal facility.

USACE believes that licensed disposal facilities that always require the use of the NRC Forms 540 and 541 under their waste acceptance criteria is appropriate. However, the instruction to the NRC Form 540 should acknowledge that the form may be used for wastes other than LLRW that are being sent for disposal to a licensed facility.

Recommendation: Consider adding a sentence of clarification on the use of the NRC Form 540 after the first sentence in the first paragraph on Page 6 of the NRC Form 540 instructions. The first two sentences would be revised to: “NRC Form 540 must be completed for shipments of low-level radioactive waste intended for disposal at a licensed land disposal facility. The NRC Form 540 may also be used at the request of a facility for other low-activity radioactive waste that is not regulated by the NRC but is being sent for disposal to the licensed disposal facility.”

Comment 2: Interaction between NRC and DOT regulations related to the use of the NRC Form 540. The instructions to the NRC Form 540 explain in the first paragraph that: “The majority of the information on NRC Form 540 is needed to meet DOT shipping paper requirements. The following are general instructions. Details on DOT requirements can be found in 49 CFR Parts 171, 172, and 173.” This instruction should be specific on when the emergency response phone number is required and acknowledge that it is not required for all shipments using this form.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Paragraph 1 on Page 6.

Discussion: In addition to sending LLRW to licensed disposal facilities, USACE also sends wastes to licensed disposal facilities which are not by definition LLRW but the wastes are regulated as a DOT Class 7 (Radioactive) Material, a DOT Class 9 (e.g. reportable quantity of radionuclides), or may be remediation waste that is not considered a hazardous material by DOT (e.g. Class 7 or Class 9.) The issue that is being identified is that not all radioactive waste, including some LLRW being offered for transportation on an NRC Form 540, meets the definition of a DOT hazardous material (e.g. Class 7(Radioactive Material) or Class 9 (RQ for radionuclides). NRC may determine under their authorities that all LLRW must have an emergency response phone number regardless of whether the LLRW meets the definition of a DOT hazardous material. However the inclusion of the reference 49 CFR 172.604 in paragraph 1 of the NRC Form 540 is problematic for wastes other than LLRW that are being sent for disposal and do not meet the definition of a DOT hazardous material. DOT would not require an emergency response phone number to be on the NRC Form 540.

Recommendation: If NRC desires to mandate that all LLRW must have an emergency response phone number then the first two sentences in Item #1, page 6 should be revised to: “- The shipper must provide an emergency response telephone number or numbers for use in the event of an emergency for all LLRW shipments being offered for transport. Wastes other than LLRW, being offered on the NRC Form 540 must have an emergency response phone number if they are a DOT hazardous material in accordance with 49 CFR 172.604. If the waste being offered is not LLRW or a DOT hazardous material, Box 1 of Form 540 should state: Not Required” This would not preclude the shipper from electing to include an emergency phone number but it would not be mandatory and it would be consistent with DOT regulations on when emergency response phone numbers are mandatory.

Comment 3: Interaction between NRC and DOT regulations related to the use of the NRC Form 540. The instructions to the NRC Form 540 explain in the first paragraph that: “The majority of the information on NRC Form 540 is needed to meet DOT

shipping paper requirements. The following are general instructions. Details on DOT requirements can be found in 49 CFR Parts 171, 172, and 173.”

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Paragraph 1 on Page 6.

Discussion: The instructions on the use of the NRC Form 540 direct the shipper to the DOT requirements found in 49 CFR Parts 171, 172, and 173. As previously stated, USACE ships other than LLRW to licensed disposal facilities and the requirements for these shipments of DOT hazardous materials not only are required to comply with the general requirements of 49 CFR Parts 171, 172, and 173 but depending on the mode of transportation and the selection of packaging must also comply with DOT requirements of 49 CFR Parts 174-180. It would be more accurate to reference all applicable DOT regulations that the shipper would be required to comply with in terms of mode specific and packaging requirements for DOT hazardous materials.

Recommendation: Revise the last sentence in the first paragraph on page 6 to the following: “Details on DOT requirements for offering hazardous materials in transportation can be found in 49 CFR Parts 171-180.”

Comment 4: Interaction between NRC and DOT regulations related to the use of the NRC Form 540. The instructions to the NRC Form 540 in the fourth and fifth sentences of Item #1 state: “Also enter the name of the person, contract number, or unique identifier as required by 49 CFR 172.604. Enter the name of the organization responsible for providing the emergency response information.”

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 1 on Page 6.

Discussion: This instruction on including the person, contract number or unique number assigned by the emergency response information (ERI) provider is consistent with the DOT 49 CFR 172.604. However it would assist the shipper to understand that this information provided in Item 1 should be included in the box identifying the “Organization” that will be the emergency response information (ERI) provider. USACE’s position is that this DOT required information should not be in the same box as the emergency response telephone number but be identified with the Organization name that will be the ERI provider.

Recommendation: Revise instructions to read: “Enter the name of the organization responsible for providing the emergency response information (ERI) as required by 49 CFR 172.604. Enter the name of the person, contract number, or unique identifier assigned by the ERI provider in association with the Organization name.

Comment 5: Interaction between NRC and DOT regulations related to the use of the NRC Form 540. The instructions to the NRC Form 540 in the sixth sentence of Item #1 state: “When multiple numbers are applicable, enter ‘See Item 11 into Item 1.’”

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 1 on Page 6.

Discussion: Clarification is needed within instructions for shipments when there are multiple emergency telephone numbers for the emergency response information providers are required.

Recommendation: Revise the last sentence of the first paragraph for Item 1 to the following: “When multiple numbers are applicable, enter “See Item 11” into Item 1 (Emergency Telephone Number) and enter each individual number in Item 11 immediately applicable description or basic shipping description of the radioactive material or waste. If there are multiple ERI providers, include their name prior to the Emergency Telephone Number in Item 11 but highlight, bold or use larger font to more prominently display the emergency telephone number.”

Comment 6: Interaction between NRC and DOT regulations related to the use of the NRC Form 540. The instructions to the NRC Form 540 in the last sentence of Item #1 states: “Note that additional emergency response information must be available and presented in accordance with 49 CFR 172.602 and 49 CFR 172.604.”

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 1 on Page 6 and Item 11 on Page 8.

Discussion: Clarification is needed within instructions on where the emergency response guide number should be identified (Item 1 or 11) on the NRC Form 540. This topic is also addressed in Item 11 when discussing “Any Additional Information.” Even though Item 1 has the instruction to provide additional emergency response information in accordance with 49 CFR 172.602 and 49 CFR 172.604 it would be more appropriate to include the emergency response guide number in accordance the instructions in Item 11 in association with the basic shipping description.

Recommendation: Revise the last instruction of Item 11 to the following: “Additional information and description requirements (e.g. emergency response guide number, indication of Reportable Quantity and NRC Certificate of Compliance, if applicable) are specified at 49 CFR 172.203 and will be identified in Item 11.”

Comment 7: Instructions for NRC Form 540 Item 6. Carrier. Multiple carrier shipments are not directly addressed.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 6 on Page 7.

Discussion: If two or more carriers will be used for the shipment (e.g. multi-modal shipments) to the licensed disposal facility, the NRC Form 540 identifies the initial carrier but does not provide any information on the subsequent carriers. The NRC Form 540 has an existing provision in Item 7 that allows the attachment of additional information. USACE believes it is important to include this information with the shipping paper for all subsequent carriers after the initial carrier until the waste reaches the licensed disposal facility. This information establishes and documents the chain of custody for the waste until it arrives at the licensed disposal facility. USACE believes the existing NRC Form 540 should provide instructions to the shipper in Item 6 to utilize Item 7 (Additional Information) to identify each carrier name, address, and telephone number in chronological order after the initial carrier until it arrives at the licensed disposal facility. Subsequent carrier signatures and dates would not be required. The instructions could also state that the licensed disposal facility may require additional carrier information be included in this attachment.

Recommendation: In Item 6 recommend the following paragraph be added: "If two or more carriers will be used for the shipment of LLRW or DOT hazardous material (e.g. multi-modal shipment) to the licensed disposal facility, indicate in Item 7 that Additional Information on each carrier after the initial carrier shall be included in an attachment. The attachment shall identify the subsequent carrier's name, address and telephone numbers in chronological order after the initial carrier.

Comment 9: Instructions for NRC Form 540 Item 11 - Additional Information.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 11 on Page 8.

Discussion: The instructions in Item 11 of the NRC Form 540 do not address the situation when USACE is shipping remediation waste that is not LLRW and does not meet the definition of a DOT hazardous material (Class 7 (radioactive) material or Class 9 (RQ for radionuclides)). It would be helpful to the shipper if a new paragraph could be added to the current instructions under Item 11 that would designate the shipping name for a shipment that does not meet the definition of a DOT hazardous material and is not a LLRW.

Recommendation: In Item 11 recommend the following paragraph be added after the last paragraph: "If the package or conveyance is not a hazardous material for purposes of transportation in commerce, the shipment may be designated as "Non-Regulated Waste or Material".

Comment 10: Instructions for NRC Form 540 Item 16 – Maximum Package Activity in SI Units.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 16 on Page 9 when identifying the maximum package activity in SI units.

Discussion: NRC should clarify if it anticipates consistently identical values between Form 540 Item 16 Maximum Activity and each package activity total entered in Form 541 Item 16. Utilizing the Maximum Activity versus the Total can lead to potential discrepancies between the two forms. If NRC does not expect identical values, the NRC should acknowledge, describe and discuss implications as the working definitions of “maximum activity” and “best estimate of total activity” do not appear to be perfectly identical.

Recommendation: In Item 11 recommend the following: “NRC acknowledges that the working definitions of ‘Maximum Package Activity’ and the ‘best estimate of total activity’ do not consistently match. The shipper shall follow the specific instructions for Item 11 on NRC Form 540 and Item 11 for NRC Form 541.”

Comment 11: Instructions for NRC Form 540 Item 18 – Identification Number of the Package.

Reference: NRC Form 540: Uniform Low-Level Radioactive Waste Manifest (Shipping Paper) instruction, Item 18 on Page 9 the Identification Number of Package.

Discussion: For rail shipments of Class 7 (Radioactive) material, 49 CFR 172.203(g)(1) requires that the shipping paper prepared by the rail carrier contain the reporting mark and number when displayed on the rail car, freight container, transport vehicle or portable tank. The railroad reporting mark is known as a standard carrier alpha code and is a two to four letter code assigned by Railinc that uniquely identifies the owner of a piece of railroad rolling stock. It would assist the shipper and carrier if it was clarified if this reporting mark must be included as additional information under Item 11 of NRC Form 540 or if it can follow the Identification Number of the Package in Item 18 that is typically completed by the shipper prior to releasing the shipment.

Recommendation: Indicate in the appropriate instructions (Item 11 or 18) that the railroad reporting mark must be included as additional information under Item 11 or under Item 18 with the Identification Number of the Package.

Comment 12: Miscellaneous minor edits to NRC Forms 540, 541 and 542.

Reference: NRC Forms 540, 541 and 542.

Recommendations:

NRC Form 541 edits:

Item 1: Place a heavier border between “I-129” and “Source (kg)” to ensure all “Activity (MBq)” fields are obviously enclosed.

Item 2, Change the “Shipper I.D. Number” to “Shipper ID Number” for consistency with Form 540.

Item 11, change “MBq/100cm²” to “MBq/100 cm²” by inserting a space between 100 and cm².

NRC Form 542 Instruction edits:

Item 1: Waste Collector/Processor. Use consistent language for Shipper ID Number between Forms 540 and 542. Suggested text would be: “Complete the collector’s or processor’s name, shipper ID number and the shipping date with the same data as reported in Item 5 of the NRC Form 540.

NRC Form 542 edits:

Item 1: Change “Identification Number” to “Shipper ID Number” for consistency with Form 540.