



March 28, 2014

Via: Email and FedEx

Ms. Catherine Haney  
Director, Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

- References: (1) Texas Commission on Environmental Quality, Radioactive  
Material License No. R04100, Amendment 25, CN600616890,  
CN101702439
- (2) NRC Docket No. 70-7005

**Subject: Priority Exemption Request to Possess Special Nuclear Materials in  
Excess of Critical Mass Limits Specified in 10 CFR 150.11 to  
support Time Sensitive DOE Shipments of Transuranic Waste from  
Los Alamos National Laboratory to WIPP**

Dear Ms. Haney:

It is hereby requested that the Nuclear Regulatory Commission (NRC) grant a specific exemption pursuant to Title 10 of the Code of Federal Regulations (CFR) Part 70.17, *Exemptions*, to allow Waste Control Specialists LLC (WCS) to possess and store, under specified conditions, transuranic waste containing Special Nuclear Material (SNM) in quantities greater than those specified in 10 CFR 150.11, *Critical Mass*, aboveground at its facility in Andrews County, Texas and at concentrations greater than those specified in License Condition 206 of Radioactive Material License (RML) No. R04100 in individual waste containers, without first obtaining an NRC possession license in accordance with 10 CFR Part 70, *Domestic Licensing of Special Nuclear Material*. In addition, WCS requests that this exemption be considered on a priority basis as it is needed to enable the Department of Energy (DOE) to complete the shipment of transuranic waste mandated under a framework agreement with the New Mexico Environmental Department (NMED) by June 30, 2014. In order to comply with the June 30, 2014 deadline, DOE needs to begin shipments in late April or early May.

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WCS requests that NRC make a determination on this exemption, if possible, by April 25, 2014, to support DOE's shipping schedule.

On January 5, 2012, DOE signed a framework agreement with NMED to remove approximately 3,706 cubic meters of legacy transuranic waste stored aboveground in Technical Area 54 at Los Alamos National Laboratory (LANL) by June 30, 2014 as the imperative priority at LANL. While approximately eighty percent of these wastes have already been shipped to the Waste Isolation Pilot Plant (WIPP) for disposal, future shipments have been suspended due to the current shutdown of the WIPP facility. The requested exemption would allow WCS to possess and store the remaining transuranic wastes from Technical Area 54 at its nearby Andrews County, Texas site while the WIPP facility is out of operation.

The date which the WIPP will be reopened is undetermined at this time. Additionally, the WIPP receives transuranic shipments from sites across the DOE complex. As such, while this exemption request addresses the need to meet the milestones as set forth in the framework agreement between the DOE and NMED, it also pertains to all shipments of transuranic waste from the DOE complex that are destined for disposal at the WIPP once it resumes operation. The specific conditions for which the exemption is requested would require that all transuranic waste needed by WIPP to be shipped to WCS would be in NRC certified transportation packages, and that transuranic wastes would be stored on site in accordance with the criticality safety evaluations and handling procedures developed by DOE for storage at DOE sites and disposal at WIPP.

#### **Need for Exemption**

WCS operates a radioactive waste treatment, storage and disposal facility in Andrews County, Texas under a Radioactive Material License (RML R04100) granted by the Texas Commission on Environmental Quality (TCEQ). Pursuant to 10 CFR 150.11, Agreement State licensees are only authorized to possess SNM in quantities not sufficient to form a critical mass. The provisions specified in 10 CFR 150.11 limit licensees to above ground possession of no more than 350 grams of <sup>235</sup>U, 200 grams of <sup>233</sup>U and 200 grams of plutonium or any combination of these provided the sum of the ratios of the quantities does not exceed unity.

The NRC previously approved an exemption request authorizing WCS to possess SNM at concentrations that are too dilute to form a critical mass. This limit was derived from the definition of a critical mass in NRC's regulations in 10 CFR 150.11. As such, WCS is allowed to exceed the mass limits specified in 10 CFR 150 where it can show that the concentrations of SNM in individual waste containers or during processing do not exceed the limits specified in License Condition 206 (see Table 1). This license condition was adopted in accordance with an Order issued by the NRC in Docket No. 70-7005 on October 30, 2001.

The exemption is needed to allow WCS to possess and store a small portion of the LANL and other WIPP-bound transuranic waste that may contain SNM in concentrations greater than those specified in LC-206 of RML No. R04100 in individual waste containers at its Treatment, Storage and Disposal Facility (TSDF), without first obtaining an NRC possession license. Most, but not all of the transuranic waste to be stored at WCS' TSDF falls within the current allowed SNM concentration-based limits specified in LC-206. WCS is requesting an exemption to 10 CFR 70 that will allow transuranic waste shipped in TRUPACT-II and TRUPACT-III packages to be stored at WCS, provided that the fissile limits for individual payload containers are not exceeded as described herein. The safety basis supporting this exemption request is predicated on the extensive reviews already conducted by the NRC needed to approve the use of the TRUPACT-II and TRUPACT-III packages for transporting transuranic waste in commerce across the U.S.

If granted, the exemption would allow TCEQ to approve modifications to WCS's existing license issued by the TCEQ to authorize the possession and storage of LANL and other WIPP-bound transuranic waste at WCS's TSDF. It is anticipated that TCEQ could approve any license modifications needed to assure the safety and security of LANL and other WIPP-bound wastes during storage, in a timeframe that would allow DOE to meet its June deadline.

#### **Justification for the Exemption**

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest, pursuant to 10 CFR 70.17, *Specific Exemptions*.

WCS believes that the proposed exemption is in the public interest because it would allow DOE to comply with its framework agreement with NMED to remove the designated waste from LANL by June 30, 2014. The removal of aboveground transuranic wastes is being expedited because wildfires, such as the Las Conchas fire that occurred in 2011 could threaten the area where the waste is currently stored. The Los Conchas fire burned more than 150,000 acres, and caused a one acre spot fire on LANL property.

Since the original designation for the LANL waste, the WIPP facility in southeast New Mexico, will probably remain closed to shipments past the June 2014 deadline, DOE is considering WCS as a possible alternative site for temporarily receiving and storing the LANL waste until the WIPP can support the receipt and disposal. The WCS site is an ideal alternative because of its proximity to both the LANL and WIPP sites, and

because the capacity exists at WCS to receive wastes on the schedules established in the DOE-NMED agreement. The use of the WCS site for temporary storage would reduce the distances (and hence risk) that would result from shipping the wastes to more distant DOE facilities. It would also prevent unnecessary disruptions at other candidate DOE sites associated with the planning and execution of a shipping campaign. Transportation planning and storage arrangements for the WCS site would also be more efficient than using other DOE facilities because it would involve only two states – Texas and New Mexico. Above all, shipment to WCS would allow DOE to remove transuranic wastes from LANL before June 30, 2014, avoiding most of the 2014 wildfire season.

WCS also believes that the exemption is authorized by law. Section 274f of the Atomic Energy Act authorizes the NRC to grant exemptions from its licensing requirements and regulations that it finds necessary or appropriate to carry out an agreement with an Agreement State. It is WCS's belief that granting the requested exemption to 10 CFR 150.11, is an appropriate use of the NRC's Section 274f authority, since the conditions proposed for the exemption would have the same effect as the underlying regulation – preventing an inadvertent criticality by limiting the quantity, concentration and/or configuration of SNM during facility operation. Granting the exemption would allow the TCEQ to regulate the receipt, possession and storage of the LANL wastes at WCS's site under NRC's Agreement State Program, eliminating the unnecessary dual regulation by both the NRC and TCEQ.

Finally, the exemption will not endanger life or public property as it is based in large part on the rigorous criticality safety regulations imposed by the Commission under 10 CFR Part 71 to protect public health and the environment during normal transport and severe transportation accident conditions, and on extensive criticality safety evaluations performed by WIPP for storage and disposal.

#### **Safety Basis for Exemption - Assurance of Nuclear Criticality Safety**

The exemption request relies largely on the fact that the LANL and other WIPP-bound transuranic wastes would be shipped to WCS in NRC certified shipping packages, and that they would be stored on site in accordance with the criticality safety evaluations and handling procedures developed by DOE for storage at DOE sites and disposal at WIPP.

The LANL and other WIPP-bound waste would be shipped to WCS in TRUPACT-II (NRC Certificate 9218/B(U)F-96) and TRUPACT-III (NRC Certificate 9305/B(U)F-96) shipping packages. The TRUPACT-II and TRUPACT-III have been authorized to ship wastes in several types of inner containers, including standard waste boxes (SWB), pipe overpacks, ten drum overpacks (TDOP), and 55, 85 and 100 gallon drums. The inner containers used comply with the Department of Transportation's (DOT) safety requirements for Type A transportation packages. This means that the inner

containers themselves have been analyzed to withstand mishaps that might occur during normal transport, including a four foot drop test onto a rigid surface. The four foot drop height approximates the distance that a package may fall in a storage mishap, as the inner containers would only be stacked two high in storage.

Both of TRUPACT packages, with the various inner containers, have been certified by NRC and assigned a Criticality Safety Index (CSI) of zero based on a criticality safety review of the package's authorized contents. A CSI of zero means that an unlimited number of packages can be shipped and stored together and remain subcritical for both normal and transport accident conditions. The LANL waste will be transported directly to the building where it will be stored and be under the control of a private or contract carrier until it is received by WCS. It would thus be considered "in transport". In addition, DOE has committed to making all shipments to WCS in accordance with DOT regulations, and using NRC-certified shipping containers and DOE's current fleet of approved transporters and trained personnel.

Once the waste was received by WCS, it would be unloaded by trained DOE/WIPP personnel using the unloading procedures developed for the WIPP program. The inner containers would be removed from the TRUPACT-II or TRUPACT-III shipping packages, and placed in storage. The storage array would be dictated by DOE procedures based on the configurations analyzed in Nuclear Criticality Safety Evaluation for Contact-Handled Transuranic Waste at the Waste Isolation Pilot Plant, WIPP-016, Summary of Nuclear Criticality Safety Evaluation for Shielded Containers at the Waste Isolation Pilot Plant, WIPP-025, and TRUPACT-II Safety Analysis Report, Rev. 23.

Tables 2 through 6 provide an approximate comparison of the SNM concentrations currently approved for individual containers at WCS with the fissile concentration and mass limits calculated for several types of inner containers authorized for WIPP, including standard waste boxes (SWB), 6 and 12-inch pipe overpacks, ten drum overpacks (TDOP), and 55 gallon drums. For comparison, the fissile material concentration limits were calculated by taking the number of fissile gram equivalents permitted in each inner container type and dividing by the maximum allowed weight for the contents. In addition, the SNM concentration limits in WCS's license were converted to fissile gram equivalents to facilitate comparison (see footnote 1 in Table 1). In some instances, such as the 6 and 12 inch pipe overpacks, the fissile material concentration limits are significantly higher than the WCS limit for individual containers. This is not surprising since the pipe overpacks were specially designed to handle greater fissile loadings. On the other hand, the fissile material concentration limits concentrations for 55 gallon drums and SWB's tend to be lower. It should be noted that the 55 gallon drums would bound the results for 85 and 100 gallon drums because the maximum allowed weight for contents is less. (The weight of an individual container and contents is limited to 1000 pounds and the larger gallon drums weigh

more). Also, of significance is that the allowed beryllium concentration for the WIPP containers can be substantially higher than that allowed under the LC-206 ( $< .1\%$ ).

Only a small fraction of the LANL wastes to be stored at WCS's site has SNM concentrations that exceed the concentration limits currently allowed in WCS's license. The exemption would permit these wastes to be possessed and stored on WCS's TSDF based on criticality safety evaluations performed on individual and arrays of containers in support of the WIPP program. It would also allow greater amounts of beryllium, consistent with the concentration of beryllium analyzed in the DOE criticality studies. Specifically, the exemption would request that WCS be allowed to possess and store, but not process, containers with fissile material concentrations, mass limits and beryllium concentrations that have been shown to be critically safe for storing the containers at DOE sites and for shipment in TRUPACT II at its TSDF. The applicable mass limits for inner containers are given in Section 3.1 of CH-TRAMPAC, Rev.4.

#### **Proposed Conditions for Exemption**

Transuranic waste from across the DOE Complex, as described herein, that would be shipped to WCS in NRC certified transportation packages for disposal at the WIPP. DOE personnel would unload the waste containers from the shipping package within the WCS storage building at the TSDF using the procedures developed in the WIPP program. WCS would assure that the waste received for storage is in the unopened and undamaged drums, SWB's, or other inner containers used to ship the waste to WCS. WCS would also verify that the transuranic wastes in the containers meet the concentration or mass limits specified in DOE/WIPP criticality safety evaluations.

Once received at WCS the transuranic waste containers would be stored in a warehouse (enclosed building), where the waste containers would be sheltered from weather, and which would be covered by WCS's current security provisions at the TSDF. The containers would be stored in configurations consistent with DOE's criticality safety evaluations. There would be no opening or processing transuranic waste containers.

WCS requests a specific exemption (pursuant to 10 CFR 70.17) authorizing the possession and storage of transuranic waste generated by the DOE containing SNM in quantities greater than those specified in 10 CFR 150.11 and concentrations greater than those specified in LC-206 in individual waste containers, without obtaining an NRC possession licensee under 10 CFR Part 70, subject to the following conditions:

1. All transuranic waste received from the DOE, as described herein, shall be shipped to WCS in NRC certified packages and delivered by the carrier directly to the storage building at the TSDF.

2. The inner containers shall be unloaded from transportation packages using DOE/WIPP personnel and procedures.
3. Any transuranic waste containing SNM being stored shall remain in the original inner container in which it was shipped.
4. WCS shall verify that the inner containers meet the concentration or mass limit for fissile material specified in Section 3.1 of CH-TRAMPAC, Rev.4.
5. The inner containers shall be stored in configurations that have been analyzed to be critically safe in WIPP-016 or WIPP-025. In addition, the inner containers shall only be stacked no more than two layers high.
6. The inner containers shall not be opened during storage. WCS will develop or adapt existing procedures to deal with inadvertent or accidental release of transuranic waste from the inner containers during storage.
7. Safety and security considerations not related to criticality safety (e.g., controlling radiation doses) shall rely on WCS's existing safety and security requirements for handling radioactive wastes.
8. For shipment to WIPP, the inner containers shall be loaded into transportation packages using DOE/WIPP personnel and procedures.
9. The transuranic wastes received from the DOE, as described herein, shall not count against WCS's above ground SNM possession limit while being transported and stored on site.

In addition, WCS will consult with DOE and TCEQ in the development of its written procedures for storage of transuranic waste and for its role in supporting the loading and unloading of inner containers from transportation shipping packages. Where appropriate, WCS may adopt DOE procedures in whole or in part.

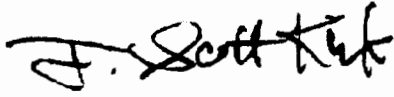
#### **Categorical Exclusion**

The proposed exemption described herein is administrative and procedural in nature, and thus, commensurate with a Categorical Exclusion specified in 10 CFR 51.22.

Ms. Catherine Haney, Director  
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WCS requests that all correspondences regarding this matter be emailed directly to my attention (skirk@valhi.net) as soon as possible after issuance. If you have any questions or need additional information, please contact me at 972-450-4284.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Scott Kirk". The signature is stylized with a large, looped initial "J" and a cursive "Kirk".

J. Scott Kirk, CHP  
Vice President of Licensing, Corporate Compliance and Corporate RSO

Enclosure:

cc: Larry Camper, NRC  
Aby Mosheni, NRC  
Harry Felsher, NRC  
Charles Maguire, TCEQ  
Bobby Janecka, TCEQ  
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## **ENCLOSURE**

**Priority Exemption Request to Possess Special Nuclear Materials  
in Excess of Critical Mass Limits Specified in 10 CFR 150.11 to  
Support Time Sensitive Los Alamos National Laboratory and  
DOE Shipments of Transuranic Waste to WIPP**

**March 28, 2014**

**Attachments:**

**Table 1: Concentration Limits for SNM in Individual Waste Containers and/or  
during Processing**

**Table 2. Comparison of Permitted SNM concentrations with Fissile Material  
Concentrations allowed in 55 gallon Drums**

**Table 3. Comparison of Permitted SNM concentrations with Fissile Material  
Concentrations allowed in Standard Waste Boxes**

**Table 4. Comparison of Permitted SNM concentrations with Fissile Material  
Concentrations allowed in 12-inch Pipe Overpack**

**Table 5. Comparison of Permitted SNM concentrations with Fissile Material  
Concentrations allowed in 6-inch Pipe Overpack**

**Table 6. Comparison of Permitted SNM concentrations with Fissile Material  
Concentrations allowed in 10 Drum Overpack**

Table 1: Concentration Limits for SNM in Individual Waste Containers and/or during Processing

TECQ License No. R04100, Amendment 25, Condition 206

SNM Radionuclide	Operational Limit (gram SNM/gram waste)	Measurement Uncertainty (gram SNM/gram waste)
U-233	.00047 Pu-239 FGE <sup>1</sup> : 0.000423	.000071
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	.00015
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	.000093
Pu-239	.00028	.000042
Pu-241	.00022 Pu-239 FGE: 0.00050	.000032

<sup>1</sup> Plutonium-239 Fissile Grams Equivalence (Pu-239 FGE) limits calculated using values cited in Table 3.1-2, *Fissile Gram Equivalent, Decay Heat, and Specific Activity of Many Radionuclides*, CH-TRAMPAC Document, Rev. 4, April 2012.

Table 2. Comparison of Permitted SNM concentrations with Fissile Material Concentrations allowed in 55 gallon Drums

SNM Radionuclide	TECQ License No. R04100, Amendment 25  Paragraph 206 Operational Limit (gram SNM/gram waste)	55 gallon Drums					
		Not machine compacted with ≤ 1% by weight Be/BeO		Not machine compacted with > 1% by weight Be/BeO		Machine compacted with ≤1% by weight Be/BeO	
		Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste
U-233	.00047 Pu-239 FGE: 0.000423	200	.00047 <sup>2</sup> (.00058)	100	.00023 (.00029)	200	.00047 (.00058)
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	200	.00047 (.00058)	100	.00023 (.00029)	200	.00047 (.00058)
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	200	.00047 (.00058)	100	.00023 (.00029)	200	.00047 (.00058)
Pu-239	.00028	200	.00047 (.00058)	100	.00023 (.00029)	200	.00047 (.00058)
Pu-241	.00022 Pu-239 FGE: 0.00050	200	.00047 (.00058)	100	.00023 (.00029)	200	.00018 (.00058)

<sup>2</sup> Pu-239 grams equivalent divided by maximum allowed weight of contents (940 lbs.). In parenthesis, Pu-239 grams equivalent divided by 80% of the maximum allowed weight of contents.

Table 3. Comparison of Permitted SNM concentrations with Fissile Material Concentrations allowed in Standard Waste Boxes

SNM Radionuclide	TECQ License No. R04100, Amendment 25	Standard Waste Box					
	Paragraph 206 Operational Limit (gram SNM/gram waste)	Not machine compacted with ≤ 1% by weight Be/BeO		Not machine compacted with > 1% by weight Be/BeO		Machine compacted with ≤1% by weight Be/BeO	
		Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste
U-233	.00047 Pu-239 FGE: 0.000423	325	.00024 <sup>3</sup> (.00030)	100	.00007 (.00009)	250	.00018 (.00022)
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	325	.00024 (.00030)	100	.00007 (.00009)	250	.00018 (.00022)
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	325	.00024 (.00030)	100	.00007 (.00009)	250	.00018 (.00022)
Pu-239	.00028	325	.00024 (.00030)	100	.00007 (.00009)	250	.00018 (.00022)
Pu-241	.00022 Pu-239 FGE: 0.00050	325	.00024 (.00030)	100	.00007 (.00009)	250	.00018 (.00022)

<sup>3</sup> Pu-239 grams equivalent divided by maximum allowed weight of contents (2993 lbs.). In parenthesis, Pu-239 grams equivalent divided by 80% of the maximum allowed weight of contents.

Table 4. Comparison of Permitted SNM concentrations with Fissile Material Concentrations allowed in 12-inch Pipe Overpack

SNM Radionuclide	TECQ License No. R04100, Amendment 25	12-inch Pipe Overpack					
	Paragraph 206 Operational Limit (gram SNM/gram waste)	Not machine compacted with ≤ 1% by weight Be/BeO		Not machine compacted with > 1% by weight Be/BeO		Machine compacted with ≤1% by weight Be/BeO	
		Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste
U-233	.00047 Pu-239 FGE: 0.000423	200	.0019 <sup>4</sup> (.0024)	200	.0019 (.0024)	Unauthorized	Unauthorized
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	200	.0019 (.0024)	200	.0019 (.0024)	Unauthorized	Unauthorized
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	200	.0019 (.0024)	200	.0019 (.0024)	Unauthorized	Unauthorized
Pu-239	.00028	200	.0019 (.0024)	200	.0019 (.0024)	Unauthorized	Unauthorized
Pu-241	.00022 Pu-239 FGE: 0.00050	200	.0019 (.0024)	200	.0019 (.0024)	Unauthorized	Unauthorized

<sup>4</sup> Pu-239 grams equivalent divided by maximum allowed weight of contents (225 lbs.). In parenthesis, Pu-239 grams equivalent divided by 80% of the maximum allowed weight of contents.

Table 5. Comparison of Permitted SNM concentrations with Fissile Material Concentrations allowed in 6-inch Pipe Overpack

SNM Radionuclide	TECQ License No. R04100, Amendment 25	6- inch Pipe Overpack					
	Paragraph 206 Operational Limit (gram SNM/gram waste)	Not machine compacted with ≤ 1% by weight Be/BeO		Not machine compacted with > 1% by weight Be/BeO		Machine compacted with ≤1% by weight Be/BeO	
		Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste
U-233	.00047 Pu-239 FGE: 0.000423	200	.0067 <sup>5</sup> (.0084)	200	.0067 (.0084)	Unauthorized	Unauthorized
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	200	.0067 (.0084)	200	.0067 (.0084)	Unauthorized	Unauthorized
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	200	.0067 (.0084)	200	.0067 (.0084)	Unauthorized	Unauthorized
Pu-239	.00028	200	.0067 (.0084)	200	.0067 (.0084)	Unauthorized	Unauthorized
Pu-241	.00022 Pu-239 FGE: 0.00050	200	.0067 (.0084)	200	.0067 (.0084)	Unauthorized	Unauthorized

<sup>5</sup> Pu-239 grams equivalent divided by maximum allowed weight of contents (66 lbs.). In parenthesis, Pu-239 grams equivalent divided by 80% of the maximum allowed weight of contents.

Table 6. Comparison of Permitted SNM concentrations with Fissile Material Concentrations allowed in 10 Drum Overpack

SNM Radionuclide	TECQ License No. R04100, Amendment 25	10 Drum Overpack					
	Paragraph 206 Operational Limit (gram SNM/gram waste)	Not machine compacted with ≤ 1% by weight Be/BeO		Not machine compacted with > 1% by weight Be/BeO		Machine compacted with ≤1% by weight Be/BeO	
		Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste	Pu-239 FGE	Pu-239 FGE /gram waste
U-233	.00047 Pu-239 FGE: 0.000423	325	.00014 <sup>6</sup> (.00018)	100	.00004 (.00006)	250	.00011 (.00014)
U-235 (10 % enriched)	.00099 Pu-239 FGE: 0.00064	325	.00014 (.00018)	100	.00004 (.00006)	250	.00011 (.00014)
U-235 (100 % enriched)	.00062 Pu-239 FGE: 0.0004	325	.00014 (.00018)	100	.00004 (.00006)	250	.00011 (.00014)
Pu-239	.00028	325	.00014 (.00018)	100	.00004 (.00006)	250	.00011 (.00014)
Pu-241	.00022 Pu-239 FGE: 0.00050	325	.00014 (.00018)	100	.00004 (.00006)	250	.00011 (.00014)

<sup>6</sup> Pu-239 grams equivalent divided by maximum allowed weight of contents (5000 lbs.). In parenthesis, Pu-239 grams equivalent divided by 80% of the maximum allowed weight of contents.