



**WASTE MANAGEMENT
& RADIATION CONTROL**

Generator Site Access Permit Enforcement Policy

December 2015

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General Statement of Policy and Procedure for Division of Waste Management and Radiation Control Generator Site Access Enforcement Actions

I. Introduction and Purpose

The purpose of the Division of Waste Management and Radiation Control (DWMRC) Generator Site Access (GSA) enforcement policy is to support the Division's overall safety mission in protecting the public and the environment from undue hazards and their associated risks through the uniform application of enforcement action as specified. Generators of radioactive waste wishing to access Utah radioactive waste disposal facilities should be familiar with the information provided in this guidance as it will assist the generator in complying with the rules covering generator site access.

GSA Permittees should review the documents titled "Manifest Requirements for Low-Level Radioactive Waste (LLRW) Processors" and "Classifying Blended Uranium Waste as Natural Uranium (U-Nat)" in relation to any shipments to disposal facilities in Utah. These documents can be found at the end of this document in Appendix B (Manifest Requirements for Low-Level Radioactive Waste (LLRW) Processors) and Appendix C (Classifying Blended Uranium Waste as Natural Uranium (U-Nat))

II. Statutory Authority and Procedural Framework

Utah Code Title 19 Chapter, 3 Section 104 provides that the Utah Waste Management and Radiation Control Board may make rules to protect the public and environment from significant sources of radiation. The procedures and rules set forth in R313-26 (Generator Site Access Requirements for Accessing Utah Radioactive Waste Disposal Facilities) and R313-14-15 (Enforcement Actions) enables the Director of the DWMRC to exercise enforcement authority and prescribes civil penalties.

III. DWMRC Policy

Permittees are required to offer shipments that are compliant with federal regulations, state rules and EnergySolutions Radioactive Material License (RML) regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description. (See R313-26-6)

In addition, Shipments containing DOT regulated and non-regulated material are required to be packaged to assure package integrity and containment of waste material shipped. The shipper needs to ensure waste material is contained so that no release of material occurs under conditions normally incident to transportation and utilize waste container(s)/package(s) where containment integrity has not been compromised. (R313-26-4(5)).

IV. Severity of Violations

Violations/Findings are assigned a point value from 10 to 525 points and civil penalties can be assessed up to \$10,000 per violation. The point assessments and civil penalties are based on Appendix A. In general, violations/findings are meant to address conditions with significant potential concerns as well as cases of minor issues that, if left uncorrected, could lead to more serious problems.

V. Enforcement Actions

Enforcement procedures begin with administrative actions that include telephone/email notification, and may include follow up written notification, Confirmatory Action Letters and Demands for Information. Enforcement actions can escalate to Notices of Violation (NOV), orders of various types, the imposition of civil penalties and/or suspension or revocation of site access permits. When selecting the enforcement sanctions or administrative actions, the Director consults the provisions of R313-14, Violations and Escalated Enforcement.

When a violation of the rules is identified, an enforcement action is taken. The nature and extent of the enforcement action is intended to reflect the seriousness of the violation involved. For the vast majority of violations, a NOV is the normal action. However, circumstances regarding the violation findings may warrant discretion being exercised such that the Director refrains from issuing an NOV or other enforcement actions. Likewise, the Director may review the violations and related circumstances in the aggregate and enhance or reduce the enforcement actions taken.

1. Notification Procedures

Once a potential violation, noncompliant issue, or unsafe condition is noted by the inspector, the Director determines the action to be taken and the GSA permittee is notified as specified below. The notification procedures are related to the severity of the potential violation and other relevant circumstances surrounding the event. Notification of GSA permittees that access requirements have been violated will be done using the following procedures:

- A. The first level of notification of a deficiency to a GSA permittee will be by telephone/email followed by a written Notice of Deficiency (NOD) to the shipper/generator regarding unsafe and/or noncompliant issues. This level of notification is for items of the least significance
- B. The second level of notification of deficiency to a GSA permittee will include telephone/email notification followed by a written NOV with the possibility of imposition of a civil penalty. Deficiencies of greater significance or repeat violations could fall into this category of notification.
- C. The third level of notification of deficiency will include notification by telephone/email followed by a NOV that includes a temporary Suspension Order and may include the imposition of a civil penalty. Continued repeat violations, and violations of significant concern could fall into this category.
- D. The fourth level of notification includes notification by telephone/email, a written NOV, and a Permanent Revocation of the permittees access to disposal facilities in the State of Utah. The Director could also impose a civil penalty.

2. Notice of Violation

An NOV is a written notice setting forth one or more violations of a legally binding requirement. The NOV normally requires the recipient to provide a written statement describing:

- the reasons for the violation or, if contested, the basis for disputing the violation;
- corrective actions taken and the results achieved;

- corrective actions that will be taken to prevent recurrence; and
- the date when full compliance will be achieved.

The Director may waive all or portions of a written response to the extent relevant information has already been provided to the Director in writing or documented in a Division inspection report.

3. Civil Penalty

A civil penalty is a monetary penalty that may be imposed for violation of:

- permit provisions, or the Utah Administrative Code, or orders; or
- any requirement for which a permit may be revoked.

Civil penalties may be imposed up to \$10,000.00 per violation and may be escalated for repeat or duplicate violations.

Civil penalties are used to encourage prompt identification and prompt and comprehensive correction of violations, to emphasize compliance in a manner that deters future violations, and to focus the permittees' attention on violations of significant regulatory concern.

4. Penalty Assessment

The Director will generally base a NOV and the imposition of a civil penalty on the evaluation of the points assessed against a generator during any single shipping event or over the course of generator shipping campaigns. Typical penalties follow the assessment criteria shown below in Table 1. The structure of this table takes into account the gravity of the violation as a primary consideration.

Aggregation of Violation/Finding Point Value Total

In general, point totals are based on each occurrence of a problem in any given shipment. For example, a truck shipment carrying 55 gallon drums of waste; which on inspection, the inspector found two drums not labeled and that the bracing had failed. The point total would be 125 points for failed bracing and 20 points (10 points per drum) for failing to label, for a total of 145 points.

Accumulation of Points

Points are assessed from the date that the NOV is issued and are carried over for the next 12 consecutive months.

Repeat Violations

The general standard for increasing a baseline proposed penalty on the basis of repeating the same violation is as follows:

- A repeat violation of the same item within the preceding 12 months could result in the points and civil penalties for that violation being increased by 25%.
- A second repeat violation of the same item within the preceding 12 months could result in a point valuation and civil penalties for that violation being increased by 50%.

TABLE 1	
Point Value Totals	Action by Director
0 - 100	A
101-500	A+B
> 500	A+B and C or D
A -	Telephone call and Letter of Deficiency to shipper/generator regarding unsafe and/or noncompliant issue.
B -	Notice of Violation. (May include Imposition of civil penalty)
C -	Suspension of Order (Temporary)
D -	Revocation Order (permanent).

Utah Administrative Code R313-14-10 discusses the severity of violations. Section R315-14-10(3) reads as follows:

(3) Severity Level I is assigned to violations that are the most significant and Severity Level V violations are the least significant. In general, violations that are included in Severity Levels I and II involve actual or high potential impact on the public. Severity Level III violations are cause for significant concern. Severity Level IV violations are less serious but are of more than minor concern, however, if left uncorrected, they could lead to a more serious concern. Severity Level V violations are of minor safety or environmental concern.

VI. Contamination Control Requirements for Waste Shipments and Transportation Packages

The following information is intended to clarify License Condition 52 of EnergySolutions' Radioactive Material License (RML) UT2300249. Utah Administrative Code R313-26-6 states that GSA Permittees are subject to enforcement actions if GSA Permittees do not comply with requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description.

Applicable Rules and Regulation

R313-26-4(5). Shipper's Requirements.

The shipper shall ensure waste material is contained where no release of material can occur under conditions normally incident to transportation and shall utilize waste container(s)/package(s) where containment integrity has not been compromised.

R313-26-6. Enforcement.

Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description.

R313-22-34. Issuance of Specific Licenses.

(2) The Director may incorporate in licenses at the time of issuance, additional requirements

and conditions with respect to the licensee's receipt, possession, use and transfer of radioactive material subject to Rule R313-22 as the Director deems appropriate or necessary in order to:

- (a) minimize danger to public health and safety or the environment;
- (b) require reports and the keeping of records, and to provide for inspections of activities under the license as may be appropriate or necessary; and
- (c) prevent loss or theft of material subject to Rule R313-22.

R313-19-100. Transportation

- (5) Transportation of licensed material
 - (a) Each licensee who transports licensed material outside the site of usage, as specified in the license issued by the Director, the U.S. Nuclear Regulatory Commission or an Agreement State, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the U.S. Department of Transportation regulations in 49 CFR parts 107, 171 through 180, and 390 through 397 (2009), appropriate to the mode of transport.
 - (i) The licensee shall particularly note DOT regulations in the following areas:
 - (A) Packaging--49 CFR part 173: subparts A (49 CFR 173.1 through 49 CFR 173.13), B (49 CFR 173.21 through 49 CFR 173.40), and I (49 CFR 173.401 through 49 CFR 173.477).

Explanation of Requirement

License Condition 52 was added to EnergySolutions' RML UT 2300249, Amendment #20, on November 8, 2004. This License Condition was added under the provisions of Utah Admin. Code R313-22-34(2)(a)&(c) which states that the Director may incorporate conditions in a radioactive materials license in order to minimize the danger to public health and safety or the environment of radioactive waste being transported through the State of Utah on public roads, highways and railways; and to prevent the loss of radioactive waste as it is being transported through the State of Utah.

License Condition 52 is a simple method to demonstrate compliance with Utah Admin. Code R313-26-4(5). If a waste shipment/package leaves its place of origin meeting the contamination requirements and arrives at the Clive facility still meeting the contamination requirements. Therefore, public health and safety and the environment were protected. If a waste shipment/package arrives at the Clive facility and it exceeds contamination limits than the waste material was not contained during transportation, loss of waste material may have occurred and protection of the public health and safety and the environment was not achieved.

How the Contamination Limits were Determined

The requirements of 49 CFR 173.443 Table 9-*Non-Fixed External Radioactive Contamination Limits for Packages* (Table 9) are incorporated into the Utah Administrative Code by reference in Utah Admin. Code R313-19-100. In License Condition 52, the 0.10 wiping efficiency described in 49 CFR 173.443(a)(1) was included to simplify the determination of compliance with 49 CFR 143.443(a)(1). The low-level toxicity alpha emitting nuclides category in Table 9 was excluded for practical purposes. EnergySolutions' Clive facility may receive both low-level toxicity and other alpha emitting nuclides in the same container/shipment. It is not possible for a person surveying

incoming shipments to distinguish between low-level toxicity and other alpha emitting nuclides using hand held instrumentation. Therefore, no distinction is made between low-level toxicity and other alpha emitting nuclides in License Condition 52 and has only one limit for all alpha emitting nuclides coming to the EnergySolutions' Clive facility.

Director Interpretation of 49 CFR 173.443(b)

The Director has determined that the provisions in 49 CFR 173.443(b) do not apply to low level radioactive waste shipments entering the state. The rationale for excluding 49 CFR 173.443(b) is that the ten times the limit in Table 9 allows for small concentrations of radioactive material to be released from the transport container. As stated above any amount of radioactive material being released from its transport container is a violation under UAC R313-26-4(5). Therefore, 49 CFR 173.443(b) was eliminated from License Condition 52.

Appendix A: Point Value Assessment Table and Enforcement Examples

This appendix lists frequently cited violations to be used as examples in determining the appropriate point value assessment for a given violation. Each infraction is assigned a numerical value, shown as points. The points range in degree of significance with 10 points indicating the lowest and 525 points for the most significant infraction. Civil penalties are determined by the Director and may be as high as \$10,000 (Utah Admin. Code R313-14-15 shows the range of penalties). The Director may adjust the civil penalty upward or downward based on circumstance.

Point Value Table of Frequently Cited Violations

Penalty Guidelines	Reference	Points
Permit:		
Failure to register as a generator or shipper of hazardous material with the State of Utah GSA program	R313-26-3	150
Failure to obtain the appropriate GSA permit and/or number of permits (i.e. obtaining a Waste Generator permit instead of Processor permit)	R313-26-2 (see definitions) R313-26-3(9)(a); (b); and (c)	75
Failure to use the correct GSA permit number (typo, transposed)	R313-26-3	25
Shipping papers:		
Failure to provide shipping papers for a shipment of hazardous materials	49 CFR 172.200(a) 49 CFR 171.2 (e)	500
Failure of Hazardous waste manifest (EPA Forms 8700-22 & 22A) to have date and signature, as applicable	49 CFR 172.205	100
Failure to execute the required shipper's certification, when required	R313-15-1006(3) 49 CFR 172.204	100
Failure to list name, address, phone number or generator/shipper information on manifest (<i>A complete and appropriate shipper name that is directly associated with the assigned GSA permit number should be shown on the manifest/shipping papers, otherwise the GSA permit number could then be used for by virtually any shipper.</i>)	R313-15-1006(4) 10 CFR 20 App G(1)(A)	25
Shipping paper information that is not consistent with the required description	49 CFR 172.201(a)(4)	25
Failure to include an identification number or use an incorrect number	R313-19- 100(3)(a)(i)(E) 49 CFR 172.202(a) (1)	125
Failure to include a proper shipping name or using an incorrect proper shipping name	R313-19- 100(3)(a)(i)(E) 49 CFR 172.202(a) (2)	125
Failure to include a hazard class/division number or use an incorrect number	R313-19- 100(3)(a)(i)(E) 49 CFR 172.202(a) (3)	125
Using a shipping description not in the required sequence	49 CFR 172.202(b)	50

Penalty Guidelines	Reference	Points
Failure to list the number and type of packages	R313-19-100(3)(a)(i)(E) 49 CFR 172.202(a)(7)	25
Failure to include the total quantity of HM covered by the shipping description	R313-19-100(3)(a)(i)(E) 49 CFR 172.202(c)	25
Failure to list an exemption number in association with the shipping description	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(a)	25
Failure to use the letters "RQ" in the shipping description to identify hazardous substances	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(c)(2)	25
Failure to name radionuclides as required by 172.203(d)(2)	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(d)(1)	50
Failure to provide an emergency contact number or provide a non-working number	R313-19-100(3)(a)(i)(E) 49 CFR 172.604(a)(1) 172.604(a)(2)	200
Failure to have an emergency contact number monitored while waste is in transportation	R313-19-100(3)(a)(i)(E) 49 CFR 172.604(a)(1)	150
Failure to describe the physical and chemical form of the material	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(d)(2)	25
Failure to list the activity contained in each package	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(d)(3)	75
Failure to indicate the category of label (White I, Yellow II, Yellow III) and/or transport index	R313-19-100(3)(a)(i)(E) 49 CFR 172.203(d)(4) & (5)	25
Failure to include the words "fissile excepted" for a package containing fissile Class 7 (radioactive) materials that is excepted	49 CFR 172.203(d)(6)(i)	25
Failure to indicate the Criticality Safety Index on shipping papers, when required	49 CFR 172.203(d)(6)(ii)	35
Failure to provide exclusive use instructions, when required	49 CFR 173.427(a)(6)(iv)	25
Failure to accurately complete the NRC Form 541	(NUREG/BR 0204)	10-300
Marking & Labeling:		
Failure to mark industrial packages: TYPE IP-IP-1, TYPE IP-2, TYPE IP-IP-3, TYPE A, TYPE B(U) or TYPE B(M)	R313-19-100(3)(a)(i)(B) 49 CFR 172.310(b)	25
Failure to mark each radioactive package with a gross mass greater than 110 pounds when required	R313-19-100(3)(a)(i)(B) 49 CFR 172.310(a)	25

Penalty Guidelines	Reference	Points
Failure to affix "Fissile" labels when required	49 CFR 172.400(b)(2)	125
Failure to mark excepted packages for limited quantities of class 7 materials "Radioactive", when applicable	R313-19- 100(3)(a)(i)(B) 49 CFR 173.421(a)(4)	25
Failure to mark the outside of an excepted package containing Class 7 material with the UN letters and four digit ID number	49 CFR 173.422(a)	110
Failure to mark packaged or unpackaged of Radioactive LSA, Radioactive SCO, or "RQ"	R313-19- 100(3)(a)(i)(B) 49 CFR 173.427(a)(6)(vi)	50
Failure to label each package with Class A, B, or C (minimum of ½" letters in a contrasting color)	R313-15-1008(3) 10 CFR 61.57 10 CFR 20 App G,III,2	10
Failure to mark the proper shipping name or incorrect shipping name on a package, when required	R313-19- 100(3)(a)(i)(B) 49 CFR 172.301(a)	50
Failure to mark the identification number or incorrect ID number on a package, when required	R313-19- 100(3)(a)(i)(B) 49 CFR 172.301(a)	100
Failure to apply DOT labels when required on package (per package)	R313-19- 100(3)(a)(i)(B) 49 CFR 172.400	75
Placing a label on a package that understates the proper label category (White I, Yellow II, Yellow III)	R313-19- 100(3)(a)(i)(B) 49 CFR 172.403(b)	50
Placing a label that fails to contain, or has erroneous entries for the name of the radionuclide(s) and/or activity	R313-19- 100(3)(a)(i)(B) 49 CFR 172.403(g)(1-3)	50
Placing a label that represents a hazard other than the hazard presented by the HM in the package	R313-19- 100(3)(a)(i)(B) 49 CFR 172.400 & 172.401(a)(2)	200
Placing a label on a package that does not contain a hazardous material	R313-19- 100(3)(a)(i)(B) 49 CFR 172.400 & 172.401(a)	75
Placarding:		
Failure to properly placard according to Subpart F	49 CFR 172.500(a)	
Missing placards (each)	R313-19- 100(3)(a)(i)(C) 49 CFR 172.516(c)(1)	15
Placard not securely attached or affixed or placed in a holder	R313-19- 100(3)(a)(i)(C) 49 CFR 172.516(c)(1)	10
Obscured, torn, or damaged placards (each)	R313-19- 100(3)(a)(i)(C) 49 CFR 172.516	10
Placard not square on point (each)	R313-19- 100(3)(a)(i)(C) 49 CFR 172.516 & 172.519	10

Penalty Guidelines	Reference	Points
Color incorrect faded (each)	R313-19-100(3)(a)(i)(C) 49 CFR 172.519(d)(3)	10
Package:		
Failure to utilize the proper packaging	49 CFR 173.22(a)(2)	300
Failure to assure the package compatibility with material	49 CFR173.24 49 CFR173.24(e)(1)	300
Failed package integrity and/or failure to contain waste material (non regulated material)	DRC Policy R313-26	125
Package breach (no spilled material) fail to use strong tight package	49 CFR 173.410 49 CFR173.24(b)(1) 49 CFR 173.475(b) 10 CFR 71.87(b)	250
Package breach in transit to the facility - results in contamination but does not impact health or the environment	49 CFR 173.24(b)	350
Package breach resulting in contamination that impacts health or the environment	R313-15	525
Packages in a transport vehicle exceeds a TI of more than 50 (exclusive use shipments are excepted)	49 CFR 174.700(b) & 177.842(a)	250
Packages non-exclusive use in a transport vehicle exceeds a CSI of more than 50, exclusive use not to exceed 100	49 CFR 173.457(d) 49 CFR 173.457(e)	250
Type A packaging must incorporate a tamper proof seal or similar	49 CFR 173.412(a)	20
Contamination and Radiation Levels:		
Contamination on vehicle, railcar, or package > DOT limit (EnergySolutions RML UT 2300249 License Condition 52)	49 CFR 173.443	200
Loose radioactive material in the conveyance	49 CFR 173.427(a)(ii)	125
Excess DOT radiation levels for cab, surface, plane, or at 2 meters from plane	49 CFR 172.441	350
Load Bracing:		
No bracing provided	49 CFR 173.410(a)	200
Failed bracing	49 CFR 173.410 49 CFR 173.448 49CFR 173.427(a)(iii)	125
Loosening, failed, or unintentional release of closing devices	10 CFR 71.87(c) 49 CFR 173.475(c)	125
Miscellaneous:		
Unauthorized liquids in waste shipment	R313-15-1009(2)(a)(iv)	150

Penalty Guidelines	Reference	Points
Unauthorized liquids in waste resulting in the spread of contamination that can be properly remedied with no impact to health or the environment	R313-15	250
Unauthorized liquids in waste shipment resulting in contamination that impacts health and/or the environment	R313-15	525
Mischaracterization of the waste shipment by the generator/shipper (e.g. classification error, Class A, B, or C low-level radioactive waste, mixed waste, etc.) That does not results in improper disposal	10 CFR 61.55	300
Mischaracterization of the waste shipment by the generator/shipper (e.g. classification error, Class A, B, or C low-level radioactive waste, mixed waste, etc.) That results in improper disposal	10 CFR 61.55	525
Other noncompliance activities not specifically covered by this chart, including Permittees are required to offer shipments that are compliant with the EnergySolutions Radioactive Material License.	To Be Determined by the Director (TBD)	

R313-14-15(2) discusses civil penalties and reads, in part, as follows:

(2) Civil Penalty.

(a) A civil penalty is a monetary penalty that may be imposed for violation of Utah Radiation Control Rules or lawful orders issued by the Director. Civil penalties are designed to emphasize the need for lasting remedial action and to deter future violations. Generally, civil penalties are imposed for Severity Level I and Severity Level II violations. In the absence of mitigating circumstances, civil penalties are considered for Severity Level III violations. Penalties are not ordinarily imposed for Severity Level IV and V violations unless those violations are similar to previous violations for which the licensee, permittee, or registrant failed to take effective corrective action.

(b) The level of a civil penalty may not exceed \$10,000 per violation. Except as modified by provision of the next paragraphs, the base civil penalties are as follows:

TABLE

Severity Level I Violations	\$10,000
Severity Level II Violations	\$8,000
Severity Level III Violations	\$5,000
Severity Level IV Violations	\$1,500
Severity Level V Violations	\$500

Appendix B: Manifest Requirements for Low-Level Radioactive Waste (LLRW) Processors

Guidance

Subject: Manifest Requirements for Low-Level Radioactive Waste (LLRW)
ProcessorsOriginally issued by the Division of Radiation Control March 22, 2012

It has come to the attention of the Division that some Generator Site Access Permittees have been describing LLRW, which has been processed in an incinerator or other thermal treatment process, as residual waste. The Division has researched the rationale for this practice and has determined that this practice and description is not appropriate.

Some Generator Site Access Permittees reference Volume 60 of the Federal Register 3rd column of page 15,652, where the Nuclear Regulatory Commission (NRC) states: "contaminated ash should be considered residual waste assigned to the processor." However, the next sentence further clarifies this statement: "If this interpretation is agreed to by the appropriate State or Compact authorities." Moreover, the practice is explicitly addressed in Utah Administrative Code R315-26-4(4), which states:

(4) A Waste Collector, Waste Processor or Waste Generator shall ensure all radioactive waste contained within a shipment for disposal at a land disposal facility in the state is traceable to the original generators and states, regardless of whether the waste is shipped directly from the point of generation to the disposal facility.

In addition, 10 CFR 20 Appendix G *Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests*, Section E *Multi-Generator Disposal Containers*, Subsection 1 states:

For homogeneous mixtures of waste, such as incinerator ash, provide the waste description applicable to the mixture and the volume of the waste attributed to each generator.

Furthermore, the Director acknowledges that incidental waste from decontamination and maintenance activities between distinct batches that cannot be attributed to a single generator shall be attributed to the Processor. De minimis waste from previous shipments does not have to be described in order to be attributed. This is consistent with the Northwest Compact's interpretation of this issue. Generator Site Access Permittees may still dispose of incinerated and thermally treated waste at the EnergySolutions' Clive, Utah facility; however, Generator Site Access Permittees will need to describe LLRW accordingly and attribute the waste as described in 10 CFR 20 Appendix G - Section E, Subsection 1.

If you have any questions or comments regarding the issue, please contact the Division at (801) 536-0200.

Appendix C: Classifying Blended Uranium Waste as Natural Uranium (U-Nat)

Guidance

Subject: Classifying Blended Uranium Waste as Natural Uranium (U-Nat) Previously Issued by the Division of Radiation Control July 27, 2011

It has come to the attention of the Division that many Generator Site Access Permittees have been misclassifying blended Uranium waste as "Natural Uranium (U-Nat)." This classification practice is not appropriate.

The following is a summary of reasons for this determination:

1. The Generator Site Access Permittees involved with this investigation informed the Division that Uranium waste was blended to meet EnergySolutions' Waste Acceptance Criteria and that blending is also done to remove the material from Safeguards and Security requirements.

EnergySolutions added:

1. The U.S. Department of Energy (DOE) considers the blended uranium material to be "Normal Uranium."
2. The U.S. Department of Transportation (DOT) and EnergySolutions do not have a "Normal Uranium" classification so in the absence of a DOT classification, the DOE classifies blended uranium material as "U-Nat" solely for transportation and disposal purposes.
3. NRC NUREG/BR-0096 defines both "Normal Uranium" and "Natural Uranium" as:
NATURAL URANIUM --- Any uranium-bearing material whose uranium isotopic distribution has not been altered from its natural occurring state. Natural uranium is nominally 99.283% U-238, 0.711% U-235, and 0.006% U-234 (by weight relative to total uranium element).

NORMAL URANIUM --- Any uranium-bearing material having a uranium isotopic weight distribution that can be described as being (1) 0.700 to 0.724% in combined U-233 plus U-235; and (2) at least 99.200% in U-238. [NOTE: All "*natural uranium*" having a U-235 isotopic concentration in the range of 0.700 to 0.724 percent is "*normal uranium*", but not all "*normal uranium*" is "*natural uranium*."]
4. The DOT in 49 CFR 173.401(b)(4) adds this definition for the use of the word "Natural" in classification: "Natural material and ores containing naturally occurring radionuclides which are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in Sec. 173.436."
5. DOT interpretation 06-0003 states in AI second paragraph: "The term "natural materials" in 173.401(b)(4) means material and radionuclides existing in nature, not produced by humans. Radionuclides addressed by 173.401(b)(4) do not include those contained in filters used to remove radionuclides from drinking water, produced in nuclear reactors or by other technological means."

6. Blended Uranium waste has been altered by technological means and cannot be classified as U-Nat as per 49 CFR 173.401(b)(4) and its interpretation 06-0003.

Generator Site Access Permittees may still dispose of the Uranium blended waste at the EnergySolutions' Clive facility. Generator Site Access Permittees will need to manifest the Uranium by isotope and comply with all waste classification and Special Nuclear Material limits.

If you have any questions, please contact the Division at (801) 536-0200.