

WASTE ACCEPTANCE CRITERIA ADDENDUM

Generator: U.S. Army Corps of Engineers-Buffalo District_ Date: 9/15/03

Contact: [REDACTED] Phone: (716) 879-4428_

Common Name of Material: Drill Cuttings Investigation Derived Waste (IDW)- _____

Description: Soil cuttings generated during investigation program. _____

Which Table applies to the Material (see below): Table 1 - Unimportant Quantities of Source Material Uniformly Dispersed in Soil or Other Media _____

Comments: Analytical radionuclide data of the soil is considered represented for the soil cuttings based on process knowledge and observations at the site. _____

Determine which table from the USEI Waste Acceptance Criteria (WAC) applies to the waste (Tables 1 - 4).

- 1. If Table 1, does the material only contain U₂₃₈ or only Th₂₃₂ or both?
 - a.) If only U₂₃₈ or only Th₂₃₂, then use the value/concentration listed under Table 1 for Natural Uranium and Natural Thorium as the limit.
 - b.) If both present, then use the following formulas as appropriate:

For natural uranium and natural thorium mixture:

$$\{ \text{Conc. U} / 141 \text{ pCi/g} + \text{Conc. Th} / 110 \text{ pCi/g} \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 14) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

For refined uranium and thorium mixture:

$$\{ \text{Conc. U} / 333 \text{ pCi/g} + \text{Conc Th} / 110 \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 5) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

For depleted uranium and thorium mixture:

$$\{ \text{Conc. U} / 169 \text{ pCi/g} + \text{Conc Th} / 110 \text{ pCi/g} \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 4) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

Note: Absent strong evidence to the contrary, Th-232 will routinely be considered at 100% equilibrium with its progeny.

Calculations (add extra sheets as necessary)

WSID # 15626, see attached calculation sheet

c.) **If Th-230 is the only source material present**, then choose the appropriate limit from the two available selections.

If Table 2 then choose one of the following:

a) Is the material Radium 226 or 228?

Note: Ra-226 and Ra-228 will routinely be considered completely in equilibrium with their progeny.

If yes, use Table 2 directly

b) Is the material Lead 210?

Note: Lead-210 will routinely be considered completely in equilibrium with its progeny.

If yes, use Table 2 directly

c) Is the material any other NORM?

If yes, use Table 2 directly

3. If Table 3, then

Use Table 3 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

Note: Add additional sheets, if necessary

4. If Table 4, then

Use Table 4 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

When using Table 4 please note the following:

1. Material must be transported in a closed vehicle.
2. Material must be packaged in a manner that does not require placarding of vehicle
3. Individual packages can bear White I or Yellow II Labels but no Yellow III Labels (surface dose rate > 50 mrem/hr). Contact a Customer Service Representative or

Sales Representative if you need help with packaging requirements. Depending on the scope, USEI may charge for this service.

4. Provide specific reference for NRC exemption

NRC Exemption: N/A

Placarding Required? NO If yes, what type _____

Certification Statement: I certify that the contents of the packages being shipped to US Ecology Idaho (USEI) are exempt from regulation by the US Nuclear Regulatory Commission in accordance with 10CFR (list each section of the NRC regulations that contains an exemption for each type of device or item in the shipment)

 Chief Env. Health
Name/Title (Please Print)

 18 Sep 2003
Signature Date

Town of Tonawanda landfill

WSID#s 15626
15627
15628

	U233\U234
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	17.91
% by weight	0.0053784

	Th228
Specific activity Ci/g	8.22E+02
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.76
% by weight	2.14E-13

	U235
Specific activity Ci/g	2.14E-06
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.02
% by weight	4.766E-05

	Th230
Specific activity Ci/g	1.90E-02
pCi/Ci	1.00E+12
Activity of material in pCi/g	5.43
% by weight	2.86E-08

Unity Equation
Must be <1
Total: **0.246658**

	U238
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	18.02
% by weight	0.0054114

	Th232
Specific activity Ci/g	1.09E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.63
% by weight	0.001495

WASTE ACCEPTANCE CRITERIA ADDENDUM

Generator: U.S. Army Corps of Engineers-Buffalo District_ Date: 9/15/03

Contact: [REDACTED] Phone: (716) 879-4428_

Common Name of Material: Grass Clippings _____

Description: Grass clippings from exclusion area, contaminant reduction area and where drilling equipment traveled across the site. _____

Which Table applies to the Material (see below): Table 1 - Unimportant Quantities of Source Material Uniformly Dispersed in Soil or Other Media _____

Comments: Analytical radionuclide data of the soil is considered represented for the grass clippings based on process knowledge and observations at the site. _____

Determine which table from the USEI Waste Acceptance Criteria (WAC) applies to the waste (Tables 1 - 4).

1. If Table 1, does the material only contain U₂₃₈ or only Th₂₃₂ or both?

a.) If only U₂₃₈ or only Th₂₃₂, then use the value/concentration listed under Table 1 for Natural Uranium and Natural Thorium as the limit.

b.) If both present, then use the following formulas as appropriate:

For natural uranium and natural thorium mixture:

{Conc. U / 141 pCi/g + Conc. Th / 110 pCi/g} ≤ 1 and {(pCi/g U x 14) + (pCi/g Th x 10)} = ≤ 2000 pCi/g

For refined uranium and thorium mixture:

{Conc. U / 333 pCi/g + Conc Th/110} ≤ 1 and {(pCi/g U x 5) + (pCi/g Th x 10)} = ≤ 2000 pCi/g

For depleted uranium and thorium mixture:

{Conc. U / 169 pCi/g + Conc Th / 110 pCi/g} ≤ 1 and {(pCi/g U x 4) + (pCi/g Th x 10)} = ≤ 2000 pCi/g

Note: Absent strong evidence to the contrary, Th-232 will routinely be considered at 100% equilibrium with its progeny.

Calculations (add extra sheets as necessary)

WSID # 15627, see attached calculation sheet

c.) **If Th-230 is the only source material present**, then choose the appropriate limit from the two available selections.

If Table 2 then choose one of the following:

a) Is the material Radium 226 or 228?

Note: Ra-226 and Ra-228 will routinely be considered completely in equilibrium with their progeny.

If yes, use Table 2 directly

b) Is the material Lead 210?

Note: Lead-210 will routinely be considered completely in equilibrium with its progeny.

If yes, use Table 2 directly

c) Is the material any other NORM?

If yes, use Table 2 directly

3. If Table 3, then

Use Table 3 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

Note: Add additional sheets, if necessary

4. If Table 4, then

Use Table 4 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

When using Table 4 please note the following:

1. Material must be transported in a closed vehicle.
2. Material must be packaged in a manner that does not require placarding of vehicle
3. Individual packages can bear White I or Yellow II Labels but no Yellow III Labels (surface dose rate > 50 mrem/hr). Contact a Customer Service Representative or

Sales Representative if you need help with packaging requirements. Depending on the scope, USEI may charge for this service.

4. Provide specific reference for NRC exemption

NRC Exemption: W/A

Placarding Required? NO If yes, what type _____

Certification Statement: I certify that the contents of the packages being shipped to US Ecology Idaho (USEI) are exempt from regulation by the US Nuclear Regulatory Commission in accordance with 10CFR (list each section of the NRC regulations that contains an exemption for each type of device or item in the shipment)

[Redacted] Chief, Env. Health
Name/Title (Please Print)

[Redacted] 18 Sept 2003
Signature Date

Town of Tonawanda landfill

WSID#s 15626
15627
15628

	U233U234
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	17.91
% by weight	0.0053784

	Th228
Specific activity Ci/g	8.22E+02
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.76
% by weight	2.14E-13

	U235
Specific activity Ci/g	2.14E-06
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.02
% by weight	4.766E-05

	Th230
Specific activity Ci/g	1.90E-02
pCi/Ci	1.00E+12
Activity of material in pCi/g	5.43
% by weight	2.86E-08

Unity Equation
Must be <1
Total: **0.246658**

	U238
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	18.02
% by weight	0.0054114

	Th232
Specific activity Ci/g	1.09E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.63
% by weight	0.001495

WASTE ACCEPTANCE CRITERIA ADDENDUM

Generator: U.S. Army Corps of Engineers-Buffalo District_ Date: 9/15/03

Contact: [REDACTED] Phone: (716) 879-4428_

Common Name of Material: Used personal protective Equipment (PPE) _____

Description: PPE was used during investigation program. _____

Which Table applies to the Material (see below): Table 1 - Unimportant Quantities of Source Material Uniformly Dispersed in Soil or Other Media _____

Comments: Analytical radionuclide data of the soil is considered represented for the PPE based on process knowledge and observations at the site. _____

Determine which table from the USEI Waste Acceptance Criteria (WAC) applies to the waste (Tables 1 - 4).

- 1. If Table 1, does the material only contain U_{238} or only Th_{232} or both?
 - a.) If only U_{238} or only Th_{232} , then use the value/concentration listed under Table 1 for Natural Uranium and Natural Thorium as the limit.
 - b.) If both present, then use the following formulas as appropriate:

For natural uranium and natural thorium mixture:

$$\{ \text{Conc. U} / 141 \text{ pCi/g} + \text{Conc. Th} / 110 \text{ pCi/g} \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 14) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

For refined uranium and thorium mixture:

$$\{ \text{Conc. U} / 333 \text{ pCi/g} + \text{Conc Th} / 110 \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 5) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

For depleted uranium and thorium mixture:

$$\{ \text{Conc. U} / 169 \text{ pCi/g} + \text{Conc Th} / 110 \text{ pCi/g} \} \leq 1 \text{ and } \{ (\text{pCi/g U} \times 4) + (\text{pCi/g Th} \times 10) \} = \leq 2000 \text{ pCi/g}$$

Note: Absent strong evidence to the contrary, Th-232 will routinely be considered at 100% equilibrium with its progeny.

Calculations (add extra sheets as necessary)

WSID # 15628, see attached calculation sheet

c.) **If Th-230 is the only source material present**, then choose the appropriate limit from the two available selections.

If Table 2 then choose one of the following:

a) Is the material Radium 226 or 228?

Note: Ra-226 and Ra-228 will routinely be considered completely in equilibrium with their progeny.

If yes, use Table 2 directly

b) Is the material Lead 210?

Note: Lead-210 will routinely be considered completely in equilibrium with its progeny.

If yes, use Table 2 directly

c) Is the material any other NORM?

If yes, use Table 2 directly

3. If Table 3, then

Use Table 3 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

Note: Add additional sheets, if necessary

4. If Table 4, then

Use Table 4 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

When using Table 4 please note the following:

1. Material must be transported in a closed vehicle.
2. Material must be packaged in a manner that does not require placarding of vehicle
3. Individual packages can bear White I or Yellow II Labels but no Yellow III Labels(surface dose rate > 50 mrem/hr). Contact a Customer Service Representative or

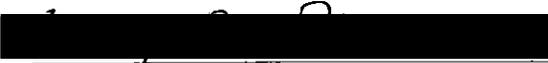
Sales Representative if you need help with packaging requirements. Depending on the scope, USEI may charge for this service.

4. Provide specific reference for NRC exemption

NRC Exemption: N/A

Placarding Required? NO If yes, what type _____

Certification Statement: I certify that the contents of the packages being shipped to US Ecology Idaho (USEI) are exempt from regulation by the US Nuclear Regulatory Commission in accordance with 10CFR (list each section of the NRC regulations that contains an exemption for each type of device or item in the shipment)

 Chief, Env. Health
Name/Title (Please Print)

 18 Sep 2003
Signature Date

Town of Tonawanda landfill

WSID#s 15626
15627
15628

	U233\U234
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	17.91
% by weight	0.0053784

	Th228
Specific activity Ci/g	8.22E+02
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.76
% by weight	2.14E-13

	U235
Specific activity Ci/g	2.14E-06
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.02
% by weight	4.766E-05

	Th230
Specific activity Ci/g	1.90E-02
pCi/Ci	1.00E+12
Activity of material in pCi/g	5.43
% by weight	2.86E-08

Unity Equation
Must be <1
Total: **0.246658**

	U238
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	18.02
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pCi/Ci	1.00E+12
Activity of material in pCi/g	1.63
% by weight	0.001495

WASTE ACCEPTANCE CRITERIA ADDENDUM

Generator: U.S. Army Corps of Engineers-Buffalo District Date: 9/15/03

Contact: [REDACTED] Phone: (716) 879-4428

Common Name of Material: Drill Cuttings Investigation Derived Waste (IDW)-

Description: Soil cuttings generated during investigation program and analytical sample collection.

Which Table applies to the Material (see below): Table 1 - Unimportant Quantities of Source Material Uniformly Dispersed in Soil or Other Media

Comments: Analytical radionuclide data of the soil is considered represented for the soil cuttings based on process knowledge and observations at the site.

Determine which table from the USEI Waste Acceptance Criteria (WAC) applies to the waste (Tables 1 - 4).

1. If Table 1, does the material only contain U238 or only Th232 or both?

a.) If only U238 or only Th232, then use the value/concentration listed under Table 1 for Natural Uranium and Natural Thorium as the limit.

b.) If both present, then use the following formulas as appropriate:

For natural uranium and natural thorium mixture:

{Conc. U / 141 pCi/g + Conc. Th / 110 pCi/g} <= 1 and {(pCi/g U x 14) + (pCi/g Th x 10)} = <= 2000 pCi/g

For refined uranium and thorium mixture:

{Conc. U / 333 pCi/g + Conc Th/110} <= 1 and {(pCi/g U x 5) + (pCi/g Th x 10)} = <= 2000 pCi/g

For depleted uranium and thorium mixture:

{Conc. U / 169 pCi/g + Conc Th / 110 pCi/g} <= 1 and {(pCi/g U x 4) + (pCi/g Th x 10)} = <= 2000 pCi/g

Note: Absent strong evidence to the contrary, Th-232 will routinely be considered at 100% equilibrium with its progeny.

Calculations (add extra sheets as necessary)

WSID # 16266, see attached calculation sheet

c.) **If Th-230 is the only source material present**, then choose the appropriate limit from the two available selections.

If Table 2 then choose one of the following:

a) Is the material Radium 226 or 228?

Note: Ra-226 and Ra-228 will routinely be considered completely in equilibrium with their progeny.

If yes, use Table 2 directly

b) Is the material Lead 210?

Note: Lead-210 will routinely be considered completely in equilibrium with its progeny.

If yes, use Table 2 directly

c) Is the material any other NORM?

If yes, use Table 2 directly

3. If Table 3, then

Use Table 3 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

Note: Add additional sheets, if necessary

4. If Table 4, then

Use Table 4 directly

Note: Must provide inventory estimate of radioactive content of each container, listed by isotope.

Radioactive Estimate by Container and Isotope: _____

When using Table 4 please note the following:

1. Material must be transported in a closed vehicle.
2. Material must be packaged in a manner that does not require placarding of vehicle
3. Individual packages can bear White I or Yellow II Labels but no Yellow III Labels (surface dose rate > 50 mrem/hr). Contact a Customer Service Representative or

Sales Representative if you need help with packaging requirements. Depending on the scope, USEI may charge for this service.

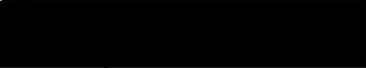
4. Provide specific reference for NRC exemption

NRC Exemption: N/A

Placarding Required? NO If yes, what type _____

Certification Statement: I certify that the contents of the packages being shipped to US Ecology Idaho (USEI) are exempt from regulation by the US Nuclear Regulatory Commission in accordance with 10CFR (list each section of the NRC regulations that contains an exemption for each type of device or item in the shipment)

 Chief, Env. Health
Name/Title (Please Print)

 _____ 18 Sep 2003
Signature Date

Seaway Landfill
 WSID#s 16266

	U233/U234
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	6.5
% by weight	0.001952

	Th228
Specific activity Ci/g	8.22E+02
pCi/Ci	1.00E+12
Activity of material in pCi/g	0.83
% by weight	1.01E-13

	U235
Specific activity Ci/g	2.14E-06
pCi/Ci	1.00E+12
Activity of material in pCi/g	1.1
% by weight	5.14E-05

	Th230
Specific activity Ci/g	1.90E-02
pCi/Ci	1.00E+12
Activity of material in pCi/g	87.6
% by weight	4.61E-07

Unity Equation
 Must be <1
 Total: **0.094345**

	U238
Specific activity Ci/g	3.33E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	6.5
% by weight	0.001952

	Th232
Specific activity Ci/g	1.09E-07
pCi/Ci	1.00E+12
Activity of material in pCi/g	0.83
% by weight	0.000761

C-2 Preacceptance Protocol

C-2a Hazardous Waste Preacceptance Review

The preacceptance protocol has been designed to ensure that only hazardous waste streams that can be properly and safely stored, treated and/or disposed of by USEI are approved for receipt at the facility. A two-step approach is taken by USEI. The first step is the chemical and physical characterization of the candidate waste stream by the generator. The second step is the preacceptance evaluation performed by USEI to determine the acceptability of the waste for receipt at the facility. Figure C-2 presents a logic diagram of the preacceptance protocol that is utilized at the facility.

C-2a(1) Radioactive Material Waste Acceptance Criteria

The following waste acceptance criteria are established for accepting radiological contaminated waste material that is not regulated by the Nuclear Regulatory Commission (NRC) under the Atomic Energy Act of 1954, as amended. These criteria are set forth in the following four tables establishing types and concentrations of radioactive materials that may be accepted.

The tables are based on categories and types of radioactive material not regulated by the NRC based on statute or regulation. The criteria are consistent with these restrictions and detailed analyses set forth in *Waste Acceptance Criteria and Justification for FUSRAP Material*, prepared by Radiation Safety Associates, Inc. (RSA) as subsequently refined, expanded and updated in *Waste Acceptance Criteria and Justification for Radioactive Material*, prepared by USEI certified Health Physicists in consultation with RSA.

Based on the categories of waste described in the waste acceptance criteria, the concentration of the various radionuclides in the conveyance (e.g., rail car gondola, other container etc.) shall not exceed the concentration limits established in the WAC. If individual "pockets" of activity are detected indicating the limits may be exceeded, the Facility Radiation Safety Officer or Facility Safety Officer shall investigate the discrepancy and estimate the extent or volume of the material with the potentially elevated radiation levels. The Radiation Safety Officer shall then make a determination on the compliance of the entire conveyance load with the appropriate WAC limits. If the conveyance is determined to meet the limits, the material may be disposed. If an exceedance is determined to exist, USEI will contact the IDEQ's Radiation Control Program (Radiation Control Officer) to evaluate and discuss management options. The findings and resolution actions shall then be documented and submitted to the IDEQ.

The radioactive material waste acceptance criteria, when used in conjunction with an effective radiation monitoring and protection program as defined in the USEI *Radioactive Material Health and Safety Manual* and *Radioactive Material Receipt Procedures* provides adequate protection of human health and the environment. Included within this manual are requirements for USEI to submit a written summary report of waste receipts showing volumes and radionuclide concentrations disposed at the USEI site on quarterly basis.

These criteria and procedures are designed to assure that the highest potential dose to a worker handling radioactive material at USEI shall not exceed 400 mrem/year TEDE dose, and that no member of the public is calculated to receive a potential dose exceeding 15 mrem/year TEDE dose, from the USEI program. TEDE is defined as the "Total Effective Dose Equivalent", which equals the sum of external and internal exposures. The public dose limit during operational activities will be limited to 100 mrem/yr TEDE dose.

Table 1: Unimportant Quantities of Source Material Uniformly Dispersed* in Soil or Other Media**

Status of Equilibrium	Maximum Concentration of Source Material	Sum of Concentrations Parent(s) and all progeny present***
Natural uranium in equilibrium with progeny	211 ppm / 141 pCi/g	≤ 2000 pCi/g
Refined natural uranium (U-238,235,234; Th-234; Pa-234m)	500 ppm / 333 pCi/g	
Depleted Uranium,DU(Th-234 & Pa-234m)	500 ppm / 169 pCi/g	
Natural thorium (Th-232 + Th-228)	500 ppm / 110 pCi/g	
Thorium-230 in equilibrium with progeny	0.01 ppm / 200 pCi/g	≤2000 pCi/g
Thorium-230 (with no progeny)	0.1 ppm / ≤2000 pCi/g	
Any mixture of Thorium and Uranium	Sum of ratios ≤ 1****	≤2000 pCi/g

Table 2: Naturally Occurring Radioactive Material Other Than Source Material Uniformly Dispersed* in Soil or Other Media**

Status of Equilibrium	Maximum Concentration of Parent Nuclide	Sum of Concentrations of Parent and All Progeny Present***
Radium-226 or 228 with progeny	222 pCi/g	≤2000 pCi/g
Lead-210 with progeny(Bi & Po-210)	666 pCi/g	≤2000 pCi/g
Any other NORM		≤2000 pCi/g

Table 3: Accelerator Produced Radioactive Material

Acceptable Material	Activity or Concentration
Any accelerator produced radionuclide the half-life of which is ≤ 3 years. Longer half-life materials may only be accepted based on IDEQ review and approval of a specific proposal.	All materials shall be packaged in metal packages, metal drums or metal boxes meeting the USDOT Type A package requirements. Any packages containing iodines or volatile radionuclides will have lids or covers sealed to the container with gaskets. Contamination levels on the surface of the packages shall not exceed those allowed at point of receipt by USDOT rules. Gamma or x-ray radiation levels may not exceed 10 millirem per hour anywhere on the surface of the package. All packages received shall be directly disposed in the active cell. All containers shall be certified to be 90% full.

* Average over conveyance or container. The use of the phrase "over the conveyance or container is meant to reflect the variability on the generator side. The concentration limit is the primary acceptance criteria.

**Other Media does not include radioactively contaminated liquid (except for incidental liquids in soils or other materials).

*** Defuse waste with a total concentration (sum of concentrations of all radionuclides present) which is 2000 pCi/g or less may be accepted at the site (i.e, the controlling limits is 2000 pCi/g).

$$**** \frac{\text{Conc. of U in sample}}{\text{Allowable conc. of U}} + \frac{\text{Conc. of Th in Sample}}{\text{Allowable conc. of Th}} \leq 1$$

Table 4: NRC Exempted Products, Devices or Items

Exemption 10 CFR Part	Product, Device or Item	Isotope, Activity or Concentration
30.15	Timepieces, lock illuminators, balances, auto shift quadrants, marine compasses, thermostat dials & pointers, internal and external calibration sources for radiation measurement devices, spark gap irradiators.	Various isotopes and activities as set forth in 30.15
30.16	Resins containing Sc-46 for sand consolidation in oil wells	Activity by Manufacturing License. Surface radiation level must not exceed 10 millirem/hr.
30.19	Self-luminous products containing tritium, Kr-85, H-3 or Pm-147	Activity by Manufacturing license
30.20	Gas and aerosol detectors for protection of life and property from fire	Isotope and activity by Manufacturing license
30.21	Capsules containing C-14 urea for <i>in vivo</i> diagnosis of humans	Carbon-14, one microcurie per capsule
40.13(a)	Unimportant quantity of source material: see table above	≤0.05% by weight source material
40.13(b)	Unrefined and unprocessed ore containing source material	2,000 pCi/gm (source material plus progeny)
40.13(c)(1)	Source material in incandescent gas mantles, vacuum tubes, welding rods, electric lamps for illumination	Thorium and uranium, various amounts or concentrations, see rules
40.13(c)(2)	(i)Source material in glazed ceramic tableware	≤20% by weight
	(ii)Piezoelectric ceramic	≤2% by weight
	(iii)glassware not including glass brick, pane glass, ceramic tile, or other glass or ceramic used in construction	≤10% by weight
40.13(c)(3)	Photographic film, negatives or prints	Uranium or Thorium
40.13(c)(4)	Finished product or part fabricated of or containing tungsten or magnesium-thorium alloys. Cannot treat or process chemically, metallurgically, or physically.	≤4% by weight thorium content.
40.13(c)(5)	Uranium contained in counterweights installed in aircraft, rockets, projectiles and missiles or stored or handled in connection with installation or removal of such counterweights.	Per stated conditions in rule.
40.13(c)(6)	Uranium used as shielding in shipping containers if conspicuously and legibly impressed with legend "CAUTION RADIOACTIVE SHIELDING - URANIUM" and uranium incased in at least 1/8 inch thick steel or fire resistant metal.	Depleted Uranium
40.13(c)(7)	Thorium contained in finished optical lenses	≤30% by weight thorium, per conditions in rule.
40.13(c)(8)	Thorium contained in any finished aircraft engine part containing nickel-thoria alloy.	≤4% by weight thorium, per conditions in rule.
32.11, 32.18, 40.41	Other materials, products or devices exempted from NRC regulation by rule, order, license, license condition or letter of interpretation may only be accepted based on IDEQ review and approval of a specific proposal.	IDEQ will review for approval any other materials, products, or devices exempted from the NRC not already specified in this modification. Approval of this material will not require a formal modification.