In the Matter of Louisiana Energy Services, L.P. RAS 11056
Docket No. 70-3103-MLA Official Exhibit No. NRC/PC 179 — Envirocare 2005
OFFERED by: Applicant/Licensee Intervenor
NRC Staff Other
IDENTIFIED on 10/22/05 Witness/Panel Staff Disposal
Action Taken: ADMITTED REJECTED WITHDRAWN
Reporter/Clerk Bethany Engel

LICENSE AMENDMENT

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE

Pursuant to Utah Code Annotated, Title 19, Chapter 3 and the Radiation Control Rules, Utah Administrative Code (UAC) R313, and in reliance on statements and representations heretofore made by the Licensee designated below, a license is hereby issued authorizing the Licensee to transfer, receive, possess, and use the radioactive material designated below; and to use radioactive material for the purpose(s) and at the place(s) designated below. The license is subject to all applicable rules, and orders now or hereafter in effect and to all conditions specified below.

****

LICENSEE		
1. Name	Envirocare of Utah, LLC	3. License Number UT 2300249 Amendment # 22
2. Address	605 North 5600 West Salt Lake City, UT 84116	4. Expiration Date October 22, 2003 (Under Timely Renewal)
		5. License Category 4-a

****

6. Radioactive Material (element and mass number)		7. Chemical and/or physical form		8. Maximum Radioactivity and/or quantity of material the licensee may possess at any one time.
A.	Any Radioactive Material including Special Nuclear Material specified in License Condition 13 A through J.	A. and B. Notwithstanding Conditions 9 (Authorized Use), 16 (Prohibitions and Waste Requirements), and 56 (containerized waste), typically large volume, bulky or containerized, soil or debris. Debris can include both decommissioning (cleanup) and routinely generated operational waste including but not limited to radiologically contaminated paper, piping, rocks, glass, metal, concrete, wood, bricks, resins, sludge, tailings, slag, residues, personal protective equipment (PPE) that conforms to the size limitations in currently approved QA/QC Manual.	A.	20,000 Curies***
B	Special Nuclear Material		B.	As specified in License Condition 13.A through J.

Template=SECY-027 SECY-02

DOCKETED
USNRC

2005 DEC 21 PM 3: 30

SECRETARY
ADJUDICATIONS STAFF

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

6. Radioactive Material (element and mass number)		7. Chemical and/or physical form		8. Maximum Radioactivity and/or quantity of material the licensee may possess at any one time.
C.	Cesium-137	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	C.	Not to exceed 11 millicuries per source
D.	Americium-241	Sealed Neutron Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	D.	Not to exceed 51 millicuries per source
E.	Americium-241	Liquid	E.	Not to exceed 5 microcuries total activity
F.	Strontium-90/Yttrium-90	Liquid	F.	Not to exceed 5 microcuries total activity
G.	Americium-241	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	G.	Not to exceed 5 microcuries total activity
H.	Thorium-230	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	H.	Not to exceed 48.6 microcuries total activity
I.	Plutonium-239	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	I.	Not to exceed 21.9 microcuries total activity
J.	Strontium-90/Yttrium-90 and Americium-241	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	J.	Not to exceed 8.1 millicuries per source
K.	Depleted Uranium	Custom Source - 55 gallon drum containing Depleted Uranium shavings in a homogenous concrete mix	K.	Not to exceed 250 pounds, 56.8 millicuries or 110,000 picocuries of Depleted Uranium
L.	Uranium-234, Uranium-235, Uranium-238, Americium-241, and Plutonium-239	Calibration or Reference Combined Source(s)	L.	250 lbs of pure UO_2 = 38.22 mCi

56.8 mCi of pure UO_2 = 371.5 lbs

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

6. Radioactive Material (element and mass number)		7. Chemical and/or physical form		8. Maximum Radioactivity and/or quantity of material the licensee may possess at any one time.
M.	Cobalt-60 and Cesium-137	Calibration or Reference Combined Source(s)	M.	Not to exceed 0.4 microcuries per source
N.	Cadmium-109, Cobalt-60, Cerium-139, Mercury-203, Tin-113, Cesium-137, Yttrium-88, and Cobalt-60	Calibration or Reference Combined Source(s)	N.	Not to exceed 5 microcuries per source
O.	Americium-241 and Europium-152	Calibration or Reference Combined Sources	O.	Not to exceed 2 microcuries per source
P.	Cesium-137	Sealed Source(s) registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation	P.	Not to exceed 12 millicuries per source

***Applies to undisposed maximum quantity at the Class A disposal cell and the Mixed Waste landfill cell.
****

9. **AUTHORIZED USE**

A. Licensee may receive, store, and dispose by land burial, radioactive material as naturally occurring and accelerator produced material (NARM) and low-level radioactive waste. Prior to receiving an initial, low-level radioactive waste shipment for disposal from a generator, the Licensee shall obtain documentation which demonstrates that the low-level radioactive wastes have been approved for export to the Licensee. Approval is required from the low-level radioactive waste compact of origin (including the Northwest Compact), or for states unaffiliated with a low-level radioactive waste compact, the state of origin, to the extent a state can exercise such approval.

B. In accordance with Utah Code Annotated 19-3-105, the Licensee may not receive Class B or Class C low-level radioactive waste without first receiving approval from the Executive Secretary of the Utah Radiation Control Board and also receiving approval from the Governor and the Legislature.

C. The Licensee shall fulfill and maintain compliance with all conditions and shall meet all compliance schedules stipulated in the Ground Water Discharge Permit, number UGW 450005, issued by the Executive Secretary of the Utah Water Quality Board.

D. Reserved

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

E. The Licensee may dispose of Class A Low-Level Radioactive Waste (LLRW) and NARM in both the Class A and Class A North disposal cell described in License Condition 40., and in the Mixed Waste Landfill Cell. Class A waste is defined in Utah Radiation Control Rule R313-15-1008 and NARM at R313-12-3.

F. Effective January 1, 2002, the licensee shall not accept, possess, store or dispose of any radioactive waste delivered to the disposal site by any conveyance, unless the associated Shipping Documents have a valid Generator Site Access Permit number, issued by the Utah Division of Radiation Control, affixed.

G. The Licensee may receive, treat, and dispose radioactively contaminated aqueous liquids and liquid mercury as characterized in the waste profile at the mixed waste facilities only, the waste must be Class A LLRW at receipt.

H. The Licensee may receive and utilize as a training device one radioactively contaminated USDOT Specification 7A Type A shipping cask at the Containerized Waste Facility. The cask is to be maintained as referenced in License Condition 84.T.(2).

I. Licensed material in Items 6.C and 6.D, Sealed source(s) contained in compatible portable gauging devices (registered pursuant to R313-22-210 or an equivalent U.S. Nuclear Regulatory Commission or Agreement State regulation) for measuring properties of materials.

J. Licensed material in Items 6.E through 6.L, for operational checks and efficiency determinations of radiation detection instrumentation.

K. Licensed material in Items 6.M through 6.O, calibration or reference combined source(s) for use in conjunction with the licensee's whole body counter.

L. Licensed material in Item 6.P, sealed source(s) contained in MGP Instruments, Inc. Model IRD-2000 dosimeter calibrators/irradiators for tests and source checks of electronic dosimeters.

SITE LOCATION

10. A. The Licensee may receive, store and dispose of licensed material at the Licensee's facility located in Section 32 of Township 1 South and Range 11 West, Tooele County, Utah.

B. Section 32, Township 1 South and Range 11 West, Tooele County, Utah, is defined by the following points of reference:

Southwest Section Corner:	Latitude 40° 40' 51.894060" N
	Longitude 113° 7' 28.579640" W
Elevation	4269.76 feet above mean sea level (amsl)

Southeast Section Corner	Latitude 40° 40' 50.906471" N Longitude 113° 6' 20.023247" W
Elevation	4277.27 feet-amsl
Northwest Section Corner	Latitude 40° 41' 44.093832" N Longitude 113° 7' 27.371551" W
Elevation	4273.06 feet-amsl
Northeast Section Corner	Latitude 40° 41' 43.107203" N Longitude 113° 6' 18.839771" W
Elevation	4280.83 feet-amsl

C. The Southwest Section Corner marker of Section 32 shall be the Point of Beginning (POB).

D. The Licensee shall cause a survey to be conducted by a Utah licensed land surveyor to identify the section corners of Section 32, Township 1 South, and Range 11 West, Tooele County, Utah (as defined in Condition 10.B). Licensee shall place monuments with brass caps at the identified section corner locations. Monuments shall be permanent and constructed in a manner that will protect them from being disturbed.

E. Licensed material in Items 6.C through 6.P shall be used only at the licensee's facilities referenced in condition 10.B.

11. The open cell area within the LARW, Class A, and Class A North disposal embankments where waste disposal/placement has or may occur, but the cover system has not been completed shall be limited to 3,650,000 square feet. Uncovered radioactive waste shall be limited to a surface area of 1,020,000 square feet.

12. Pursuant to UAC R313-12-55(1), the Licensee is granted an exemption to UAC R313-25-9, as it relates to land ownership and assumption of ownership.

SPECIAL NUCLEAR MATERIAL

13. In accordance with the Order issued by the U.S. Nuclear Regulatory Commission dated January 14, 2003, Docket No. 040-8989, License No. SMC-1559, the Licensee may possess Special Nuclear Material (SNM) within the restricted area of the Licensee's facility as described in Condition 10 provided that:

A. Concentrations of SNM in individual waste containers must not exceed the values listed in Table 13-A at time of receipt:

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

Table 13-A

Column 1 Radionuclide	Column 2 Maximum Concentration (pCi/g)	Column 3 Measurement Uncertainty (pCi/g)
U-235[a]	1,900	285
U-235[b]	1,190	179
U-235[c]	26	10
U-235[d]	680	102
U-233	75,000	11,250
Pu-236	500	75
Pu-238	10,000	1,500
Pu-239	10,000	1,500
Pu-240	10,000	1,500
Pu-241	350,000	50,000
Pu-242	10,000	1,500
Pu-243	500	75
Pu-244	500	75

a - for uranium below 10 percent enrichment and a maximum of 20 percent of the weight of the waste of materials listed in License Condition 13.B

b - for uranium at or above 10 percent enrichment and a maximum of 20 percent of the weight of the waste of materials listed in License Condition 13.B

c - for uranium at any enrichment with unlimited quantities of materials listed in License Condition 13.B and License Condition 13.C

d - for uranium at any enrichment with sum of materials listed in License Condition 13.B and License Condition 13.C not exceeding 45 percent of the weight of the waste

*The measurement uncertainty values in Column 3 above represent the maximum one-sigma uncertainty associated with the measurement of the concentration of the particular radionuclide.

The SNM must be homogeneously distributed throughout the waste. If the SNM is not homogeneously distributed, then the limiting concentrations must not be exceeded on average in any contiguous mass of 600 kilograms.

B. Except as allowed by notes a, b, c, and d in Condition 13.A, waste must not contain "pure forms"

of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. These chemicals would be added to the waste stream during processing, such as at fuel facilities or treatment such as at mixed waste treatment facilities. The presence of the above materials will be determined by the generator, based on process knowledge or testing.

C. Except as allowed by notes c and d in Condition 13.A, waste accepted must not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. The presence of the above materials will be determined by the generator, based on process knowledge, physical observations, or testing.

D. Waste packages must not contain highly water soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. The sum of the fractions rule will apply for mixtures of U-233 and U-235. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. The presence of the above materials will be determined by the generator, based on process knowledge or testing.

E. Mixed waste processing of waste containing SNM will be limited to stabilization (mixing waste with reagents), micro-encapsulation, macro-encapsulation using low-density and high density polyethylene, macroencapsulation using cementatious mix (Macro Mix), and thermal desorption.

When waste is processed using the thermal desorption process, Envirocare shall confirm the SNM concentration following processing and prior to returning the waste to temporary storage.

Liquid waste may be stabilized provided the SNM concentration does not exceed the SNM concentration limits in License Condition 13.A. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM shall not exceed the SNM concentration in License Condition 13.A times 600 kilograms of waste. Waste containing free liquids and the solids shall be mixed prior to treatment. Any solids shall be maintained in a suspended state during transfer and treatment.

F. Envirocare shall require generators to provide the following information for each waste stream:

Before Receipt

1. Waste Description. The description must detail how the waste was generated, list the physical forms in the waste, and identify uranium chemical composition.
2. Waste Characterization Summary. The data must include a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentration ranges, and the analytical results with error values used to develop the

concentration ranges.

3. Uniformity Description. A description of the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.
4. Manifest Concentration. The generator must describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. The generator must describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

Envirocare shall review the above information and, if adequate, approve in writing this pre-shipment waste characterization and assurance plan before permitting the shipment of a waste stream. This will include statements that Envirocare has a written copy of all the information required above, that the characterization information is adequate and consistent with the waste description, and that the information is sufficient to demonstrate compliance with Conditions 13.F.1 through 13.F.4. Where generator process knowledge is used to demonstrate compliance with Conditions 13.A, 13.B, 13.C, or 13.D, Envirocare shall review this information and determine when testing is required to provide additional information in assuring compliance with the conditions. Envirocare shall retain this information as required by the State of Utah to permit independent review.

At Receipt

Envirocare shall require generators of SNM waste to provide a written certification with each waste manifest that states the SNM concentrations reported on the manifest do not exceed the limits in Condition 13.A, that the measurement uncertainty does not exceed the uncertainty value in Condition 13.A, and that the waste meets Conditions 13.B through 13.D.

G. Sampling and radiological testing of waste containing SNM must be performed in accordance with the following: One sample for each of the first ten shipments of a waste stream; or one sample for each of the first 100 cubic yards of waste up to 1,000 cubic yards of a waste stream; and one sample for each additional 500 cubic yards of waste following the first ten shipments or following the first 1,000 cubic yards of a waste stream. Sampling and radiological testing of debris waste containing SNM can be waived if the SNM concentration is lower than one tenth of the applicable limit in License Condition 13.A.

H. Envirocare shall notify the NRC, Region IV office within 24 hours if any of the above conditions are violated, including if a batch during a treatment process exceeds the SNM concentration in License Condition 13.A. A written notification of the event must be provided within 7 days.

I. Envirocare shall obtain NRC approval prior to changing any activities associated with the above conditions.

J. Notwithstanding License Condition 13.A through 13.I, for the Containerized Waste Facility described in License Condition 10.F, the following limits for possession of SNM apply to the

total combined quantities of SNM at the Containerized Waste Facility:

Consistent with the definition of special nuclear material given in UAC R313-12-3, the maximum quantity of special nuclear material which the Licensee may possess at any one time, shall not exceed: 350 grams of U-235, 200 grams of U-233, and 200 grams Pu, or any combination of them in accordance with the following formula:

$$\frac{(\text{Grams U-235})}{350} + \frac{(\text{Grams U-233})}{200} + \frac{(\text{Grams Pu})}{200} \leq 1$$

"Possession" and "Disposal" are defined in License Conditions 63 and 64 respectively.

MIXED WASTE

14. A. The Licensee may receive for treatment, storage, and disposal any radioactive waste as authorized by this license that is also determined to be hazardous (commonly referred to as mixed waste) as permitted by the "Hazardous Waste Plan Approvals" issued and modified by the Executive Secretary, Utah Solid and Hazardous Waste Control Board and "HSWA Permit" issued by the U.S. Environmental Protection Agency.

B. The Licensee shall dispose of these wastes in the "mixed waste" disposal embankment only. Characteristic or listed hazardous waste treated at the Envirocare facility shall not be disposed of in the Class A North, or the Class A disposal cell.

WASTE TREATMENT AND PROCESSING

15. A. Prior to receipt of any low level radioactive or mixed wastes requiring treatment before disposal, the Licensee shall, based on knowledge of the technology to be used for treatment/processing of each particular radioactive or mixed waste, calculate and document that the resultant processed waste is neither Class B nor Class C waste.

B. Reserved

C. Following treatment at the Mixed Waste facility the Licensee shall classify the resultant processed waste in accordance with UAC R313-15-1008.

D. The Licensee shall manifest treated waste from the Mixed Waste facility for disposal in accordance with UAC R313-15-1006.

PROHIBITIONS AND WASTE ACCEPTANCE REQUIREMENTS

16. A. Sealed sources as defined in Utah Administrative Code (UAC) R313-12 shall not be accepted for disposal.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

B. In accordance with UAC R313-15-1008(2)(a)(v), waste shall not be readily capable of detonation or of explosive decomposition or reaction at normal pressures and temperatures, or of explosive reaction with water.

C. In accordance with UAC R313-15-1008(2)(a)(vi), waste shall not contain, or be capable of generating, quantities of toxic gases, vapors, or fumes harmful to persons transporting, handling, or disposing of the waste.

D. In accordance with UAC R313-15-1008(2)(a)(vii), waste shall not be pyrophoric.

E. Waste containing untreated biological, pathogenic, or infectious material including radiologically contaminated laboratory research animals is prohibited

F. Liquid Waste Restrictions

i. Except for liquid mercury, receipt of nonaqueaous liquid waste is prohibited unless specifically approved by the Executive Secretary.

ii. Treated liquid radioactive waste shall be disposed in the Mixed Waste Landfill Cell in accordance with LLRW Construction QA/QC Manual.

iii. Only Utah Division of Radiation Control approved solidification or absorption agents as listed in the State-issued Part B Permit are authorized for liquid waste treatment.

iv. Liquid radioactive waste shall be solidified or absorbed in a manner such that no liquid component is disposed.

v. Only containers authorized by the U. S. Department of Transportation as specified in the regulations (49 CFR parts 100 thru 180) for transporting liquid radioactive materials shall be accepted for all liquid radioactive wastes, regardless of radioactivity concentrations.

G. In accordance with UAC R313-15-1008(2)(a)(viii), gaseous waste received for disposal in the Containerized Waste Facility shall be packaged at an absolute pressure that does not exceed 1.5 atmospheres at a temperature of 20 degrees Celsius and the total activity of any container shall not exceed 100 curies (3.7×10^{12} Bequerels).

H. In accordance with UAC R313-15-1008(2)(a)(ii), waste received for disposal in the Containerized Waste Facility shall not be packaged in cardboard or fiberboard containers.

I. The Licensee shall not accept for disposal any neutron source (e.g., polonium-210, americium-241, radium-226 in combination with beryllium or other target).

J. Incinerator ash shall be treated, in preparation for disposal, in a manner that renders it non-dispersible in air.

K. Radioactive waste containing chelating agents greater than 0.1 percent by weight shall be disposed of in the Mixed Waste Landfill Cell.

L. The Licensee shall not accept containerized radioactive waste unless each waste package has been:
   i. Classified in accordance with R313-15-1008, "Classification and Characteristics of Low-Level Radioactive Waste." In addition, the Licensee shall require that all radioactive waste received for disposal meet the requirements specified in the Nuclear Regulatory Commission, " Branch Technical Position on Concentration Averaging and Encapsulation", as amended.
   ii. Marked as either Class A Stable or Class A Unstable as defined in the most recent version of the "Low-Level Waste Licensing Branch Technical Position on Radioactive Waste Classification." originally issued May, 1983 by the U.S. Nuclear Regulatory Commission.
   iii. Marked with a unique package identification number, clearly visible on the package, that can be correlated with the manifest for the waste shipment in which the package arrives at the facility.

M. The Licensee may accept containerized Class A LLRW in the following waste packages for disposal in the Containerized Waste Facility of the Class A or Class A North disposal cell:
   i. DOT "strong, tight" containers in accordance with 49 CFR 173 and meeting the following void space criteria: void spaces within the waste and between the waste and its packaging shall be reduced to the extent practicable, but in no case shall less than 85 percent of the capacity of the container be filled
   ii. High-Integrity Containers (HICs) exceeding the void space criteria provided in License Condition 16.M.i, shall be approved by the Executive Secretary.
   iii. DOT "strong, tight" containers in accordance with 49 CFR 173 exceeding the void space criteria provided in License Condition 16.M.i and large components shall be placed as approved by the Executive Secretary.
   iv. Oversized DOT containers (larger than 215 cubic feet) meeting the void space criteria provided in License Condition 16.M.i shall be placed in accordance with the currently approved Construction QA/QC Manual.

MANAGEMENT OF FREE LIQUIDS

17. In accordance with UAC R313-15-1008(2)(a)(iv), solid waste received for disposal shall contain as little free standing and non-corrosive liquid as reasonably achievable, but shall contain no more free liquids than one percent of the volume of the waste. Solid waste received and containing free liquid in excess of 1% by volume shall have the liquid removed and placed in the evaporation ponds or the liquid solidified prior to management. In addition, the licensee shall notify the Division of Radiation Control within 24 hours that the shipment(s) failed the requirements for acceptance and manage in accordance with the Waste Characterization Plan.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

RADIATION SAFETY

18. The Licensee shall comply with the provisions of UAC R313-18, "Notices, Instructions and Reports to Workers by Licensees or Registrants--Inspections"; and UAC R313-15, "Standards for Protection Against Radiation."

19. The Licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of UAC R313-19-100, Transportation."

20. Written procedures incorporating operating instructions and appropriate safety precautions for licensed activities shall be maintained and available at the location specified in License condition 10.A. The written procedures established shall include the activities of the radiation safety and environmental monitoring programs, the employee training program, operational procedures, analytical procedures, and instrument calibration. At least annually, the licensee shall review all procedures to determine their continued applicability.

21. A. The Licensee's Bulk Waste Facility Corporate Radiation Safety Officer shall review and approve written procedures as stated in License Condition 20 and subsequent changes to the procedures related to bulk waste disposal operations.

    B. The Licensee's Containerized Waste Facility Corporate Radiation Safety Officer shall review and approve written procedures as stated in License Condition 20 and subsequent changes to the procedures related to containerized waste disposal operations

ROUTINE MONITORING AND CONTAMINATION SURVEYS

22. The Licensee shall conduct contamination surveys in accordance with Table 22-A:

TABLE 22-A

Type	Location	Frequency
A. Gamma Radiation Levels	1. Perimeter of Restricted Area(s)	1. Weekly
	2. Office Area (s)	2. Weekly
	3. Lunch/Change Area(s)	3. Weekly
	4. Transport Vehicles	4. Upon vehicle arrival at site and before departure.
	5. Mixed Waste Facility	5. Weekly
	6. Decontamination facilities	6. Weekly
B. Contamination Wipes	1. Eating Area(s) 2. Change Area(s)	1. Weekly 2. Weekly
	3. Office Areas(s)	3. Weekly
	4. Railcar rollover and control shack	4. Weekly

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

Type	Location	Frequency
	5. Equipment/Vehicles	5. Once before release
	6. Decontamination facilities	6. Weekly
	7. Mixed Waste Facility	7. Weekly
C. Employee/Personnel	1. Skin & Personal clothing	1. Prior to exiting restricted area
D. Gamma Exposure	1. Administration Bldg.(s)	1. Quarterly
E. Radon Concentration	1. Administration Bldg.(s)	1. Quarterly

23. The Licensee shall determine internal exposure of employees under its bioassay program, in accordance with UAC R313-15-204.

24. The Licensee shall implement a respiratory protection program that is in accordance with UAC R313-15-703.

25. The Licensee shall calibrate air sampling equipment at intervals not to exceed six months.

26. The operational environmental monitoring program shall be conducted in accordance with the License Renewal Application, Appendix R (revised), dated May 20, 2005.

27. Vehicles, containers, facilities, materials, equipment or other items for unrestricted use, except conveyances used for commercial transport of radioactive waste, shall not be released from the Licensee's control if contamination exceeds the limits found in Table 27-A.

TABLE 27-A

Nuclide[a]	Column 1 Average [b,c,f]	Column 2 Maximum [b,d,f]	Column 3 Removable [b,e,f]
U-nat, U-235, U-238, and associated decay products	5,000 dpm alpha/ 100cm^2	15,000 dpm alpha/ 100cm^2	1,000 dpm alpha/ 100cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100cm^2	300 dpm/100cm^2	20 dpm/100cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100cm^2	3,000 dpm/100cm^2	200 dpm/100cm^2
Beta-gamma emitters (nuclides with decay modes other than alpha emissions or spontaneous fission) except Sr-90 and other noted above.	5,000 dpm beta, gamma/100cm^2	15,000 dpm beta-gamma/100cm^2	1,000 dpm beta-gamma/100cm^2

a. Where surface contamination on both alpha-and beta-gamma emitting nuclides exists, the limits established for alpha-and beta-gamma emitting nuclides should apply independently.
b. As used in this table, dpm (disintegration's per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
c. Measurements of average contamination should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each such object.
d. The maximum contamination level applies to an area of not more than 100 cm^2.
e. The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping the area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.
f. The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters shall not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

REPORTING

28. Reserved.

29. The Licensee shall submit the following reports to the Executive Secretary:

A. Quarterly results from the Environmental Monitoring Program (Appendix R, as amended). The report(s) shall be submitted within 90 days after the expiration of each calendar quarter. Calendar Quarter shall mean:

First Quarter	January, February, and March
Second Quarter	April, May, and June
Third Quarter	July, August, and September
Fourth Quarter	October, November, and December

B. A quarterly summary report detailing the radioisotopes, activities, weighted average concentrations, volume, and tonnage for waste disposed of during the calendar quarter. The report of volume (ft3 and Yd3) and tonnage (tons) shall be partitioned according to waste type: Low Level Radioactive Waste (LLRW), LLRW with PCBs, Mixed Waste (MW), MW with PCBs, MW Treatment, NORM, Containerized Class A, uranium/thorium mill tailings (i.e. 11e.(2) wastes), and waste generated prior to congress passing the Uranium Mill Tailings Radiation Control Act in 1978. The report(s) shall be submitted within 30 days after the expiration of each calendar quarter. Calendar Quarter shall mean:

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

First Quarter	January, February, and March
Second Quarter	April, May, and June
Third Quarter	July, August, and September
Fourth Quarter	October, November, and December

C. Reserved

D. For the Mixed Waste Landfill Cell, the Licensee shall ensure that the maximum acceptable activities, used as source terms in the groundwater performance modeling are not exceeded after facility closure. Therefore, the Licensee shall notify the Executive Secretary, at the earliest knowledge, that the following nuclides are scheduled for disposal: Bk-247 and Cl-36.

E. For the Class A and Class A North disposal cells, the Licensee shall ensure that the maximum acceptable activities used as source terms in the groundwater performance modeling are not exceeded after facility closure. Therefore, the Licensee shall notify the Executive Secretary, at the earliest knowledge, that the following nuclides are scheduled for disposal: aluminum-26, berkelium-247, calcium-41, californium 250, chlorine-36, rhenium-187, terbium-157, and terbium-158.

F. An annual report shall be submitted by March 31st and shall report the cumulative void space (expressed as a percent of waste volume) disposed of in the Containerized Waste Facility for the previous year.

30. Except as provided by this condition, the Licensee shall maintain the results of sampling, analyses, surveys, and instrument calibration, reports on inspections, and audits, employee training records as well as any related review, investigations and corrective actions, for five (5) years. The Licensee shall maintain personnel exposure records in accordance with UAC R313-15-201.

STAFFING/QUALIFICATIONS

31. A. Radiation Safety operations for bulk waste(s) shall be conducted by or under the supervision of Joe M. Heckman, Bulk Waste Facility Corporate Radiation Safety Officer.

B. Radiation Safety operations for containerized waste(s) shall be conducted by or under the supervision of Mark Ledoux, Containerized Waste Facility Corporate Radiation Safety Officer.

C. Radiation Safety operations for portable gauging device(s), radioactive source(s), and dosimeter calibrator(s)/irradiator(s) shall be conducted by or under the supervision of Joe M. Heckman, Bulk Waste Facility Corporate Radiation Safety Officer.

32. A. The Licensee's staff shall meet the qualifications as described in Appendix I (April 20, 2004, rev 16).

B. Licensed material in Items 6.C and 6.D. shall be used by, or under the supervision and in the physical presence of, the Bulk Waste Facility Corporate Radiation Safety Officer or individuals who have been trained in the licensee's standard operating and emergency procedures and have satisfactorily completed at least one of the following:

i. The device manufacturer's training course for safe use and handling of portable gauging devices containing licensed material; or

ii. A portable gauge training program conducted in accordance with the provisions of a specific license issued by the Executive Secretary, an Agreement State or the U.S. Nuclear Regulatory Commission.

C. Licensed material in Items 6.E through 6.P shall be used by, or under the supervision of, the Bulk Waste Facility Corporate Radiation Safety Officer, or individuals designated in writing by the Bulk Waste Facility Corporate Radiation Safety Officer.

CONSTRUCTION ACTIVITIES

33. The Licensee shall obtain prior written approval from the Executive Secretary prior to construction of significant facilities. Significant facilities shall include, but are not limited to waste, stormwater, and wastewater related handling, storage, and transfer projects.

34. Reserved.

35. Reserved.

36. A. The West Rail Spur and Unloading facility shall be operated as a transfer station for Surface Contaminated Objects (SCO) and large components, (waste storage is prohibited). These objects may be set on the gravel pad for 24 hours to facilitate unloading and transferring to the Class A disposal cell.

B. The West Rail Spur and Unloading facility shall be operated as a transfer station for conveyances to be unloaded at the Containerized Waste Facility (unloading of waste packages is prohibited).

37. All ion exchange resins shall be disposed of as follows:

A. Solidified using solidification agents approved by the Executive Secretary and disposed of in the Containerized Waste Facility; or

B. Packaged in High-Integrity Containers (HIC) approved by the Executive Secretary, carbon-steel liners, unapproved HICs, or poly HICs meeting the void space criteria described in License Condition 16.M.i and disposed of in the Containerized Waste Facility; or

C. Packaged in High-Integrity Containers (HIC) approved by the Executive Secretary, carbon-steel liners, unapproved HICs, or poly HICs not meeting the void space criteria described in License Condition 16.M.i and disposed of as approved by the Division under License Condition 16.M.ii or 16.M.iii in the Containerized Waste Facility; or

D. Disposed of in accordance with the requirements of the Construction Quality Assurance/Quality Control Manual.

38. The Licensee shall construct the Class A disposal Cell identified in Table 40-A in accordance with approved engineering design drawings "Series 9821".

39. Waste placement and backfilling within the Containerized Waste Facility shall be conducted in accordance with the following:

A. The Containerized Waste Facility shall conform to the characteristics defined, analyzed, and described in the Engineering Justification Report "Class A Disposal Cell Containerized Waste Facility" (dated April 12, 2001); Engineering Justification Report, Addendum "Fifteen Percent Void Space Criteria" (Revision 1 dated October 10, 2001); and the AMEC letter to Envirocare of Utah, Inc. "Placement of Drums and B-25 Containers with 15 Percent Voids; Envirocare Class A - Containerized Waste Facility Near Clive, Utah" (dated October 2, 2001).

B. Waste container placement configurations and associated waste placement procedures, backfill materials and procedures, and backfill cover materials shall be those approved by the Executive Secretary following testing according to Work Element: Containerized Waste Facility-Waste Placement Test Pad of the currently approved Construction Quality Assurance/Quality Control Manual.

C. Waste delivered in a shielded transportation cask shall remain in the cask until the waste is approved for disposal and the disposal location is prepared for the shipment. Waste received for disposal in the Containerized Waste Facility shall not be handled, stored or transferred within the contaminated portion of the Restricted Area without the approval of the Containerized Waste Facility Corporate Radiation Safety Officer.

D. The Containerized Waste Facility shall be operated as a contamination-free portion of the Restricted Area until containerized waste disposal operations are completed. Bulk waste may then be used to complete the filling of the cell.

E Interim storage is applicable only to the Containerized Waste Facility. Packages containing radioactive material shall not be stored for a period of longer than 6 months from the date of receipt. Retention of waste materials above ground pending disposal up to 3 working days does not constitute storage. All packages in storage shall be shielded so that the package or shielding shall not exceed 40 mR/hour at one meter from the surface.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

40. The LARW and Class A Disposal Cells, shall be defined by the areas enclosed by the points of reference in Table 40-A. The Containerized Waste Facility within the Class A disposal cell shall be separated from the non-containerized area by a 6-foot chain link fence on the berm around the Containerized Waste Facility perimeter area.

TABLE 40-A

LARW Cell Waste Disposal and Class A Disposal Cell Boundaries	Points of Reference	
	Latitude	Longitude
LARW Disposal Cell		
Northeast Corner	40°41' 10.700524" N	113° 6' 36.372920" W
Southeast Corner	40°40' 52.230624" N	113° 6' 36.713462" W
Southwest Corner	40°40' 52.379041" N	113° 6' 51.184491" W
Northwest Corner	40°41' 10.851418" N	113° 6' 50.846182" W
Class A Disposal Cell		
NW corner	40°41' 28.004487" N	113°7' 23.847971" W
SW corner	40°41' 14.175042" N	113°7' 24.153414" W
SE corner	40°41' 13.717662" N	113°6' 54.827468" W
NE corner	40°41' 27.547403" N	113°6' 54.521700" W
Class A North Disposal Cell		
NW corner	40°41'46.28824"N	113°07'23.12804"N
SW corner	40°41'36.32803"N	113°07'23.11315"N
SE corner	40°41'36.35311"N	113°06'52.98226"N
NE corner	40°41'46.31332"N	113°06'52.99589"N

41. The LARW Cell shall be constructed in accordance with all engineering design and specifications approved by this license, and as restricted to the points of reference, as provided in Table 40-A.

42. Reserved.

43. The Licensee shall construct the Class A North disposal cell identified in Table 40-A in accordance with approved engineering design drawings "Series 04080".

44. The Licensee shall fulfill all requirements and maintain compliance with all conditions in the CQA/QC Manual and Engineering Drawings currently approved by the Executive Secretary.

45. Reserved

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

46. Reserved

47. The Licensee shall not initiate disposal operations in newly excavated areas until the Division has inspected and the Executive Secretary has approved the cell/embankment liner.

CONSTRUCTION DRAWINGS.

48. A. The Licensee shall provide a comprehensive set of drawings for the entire Clive site. The drawings shall correctly: (1) locate all structures, utilities, fences, ponds, drainage features railroad tracks, roads, storage facilities, loading and off-loading facilities, disposal embankments, all environmental monitoring locations including instruments/devices, and any other appurtenances related to the operation, maintenance and closure of the disposal facility; and (2) provide structural details including site elevation. A directory shall be included that identifies drawings by discrete number, title, date and revision. The drawings shall indicate as-built conditions as they existed no earlier than 30 days prior to the submittal. Drawings of finished construction shall be marked as "As-Built."

B. Drawings showing approved future designs, shall be marked as "Record Drawings." Record drawings or construction drawings shall be certified by a Utah registered professional engineer.

C. Within 30 days of the completion of any project that requires approval by the Executive Secretary, a set of "As-Built" drawings shall be submitted for review and inclusion into the comprehensive drawing set.

SITE OPERATING PROCEDURES

49. Shipments containing free liquid in excess of 1% shall be absorbed, evaporated, or the liquids removed only at facilities with approved secondary containment or the rail rollover facility.

50. A. On-site generated waste shall be managed according to its radiological, physical and chemical characteristics. Solid phase material shall be disposed in either the Class A Cell, Class A North Cell, Mixed Waste Cell, or the 11e.(2) Cell. Waste water from decontamination facilities will be put in the evaporation ponds or sprayed on disposal cells for purposes of dust and engineering controls.

B. Site equipment that has reached the end of its useful life, is not operational and does not meet the removable contamination limits of License Condition 27, Table 27-A, shall be disposed in the LLRW Class A Cell or Class A North Cell within 90 days as debris in accordance with requirements of the Construction Quality Assurance/Quality Control Manual or stored on approved facilities for storage, transfer, and sampling of bulk waste.

C. Facility vehicles transferring or unloading waste shall not be left unattended.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

51. The following shall be implemented for LLRW and 11e.(2) Waste segregation purposes:

A. LLRW and 11e.(2) waste shall not be managed simultaneously at the Rail rollover facility or Rail Digging facility;

B. Any vehicle or facility used to manage waste for disposal within the 11e.(2) disposal embankment, must be clearly labeled to designate 11e.(2) management. The labels shall be visible from both sides of a vehicle/facility designated for 11e.(2) waste management.

C. Equipment, vehicles and facilities, which are used for management of LLRW will be cleaned of any material before being used for 11e.(2) waste management activities. Equipment, vehicles and facilities shall be cleaned of all waste material to a limit of 500 grams per square foot prior to being used for other waste types.

52. Waste shipments or transportation packages received shall meet the following contamination control requirements for removable contamination

*Less then 220 dpm/100cm^2 alpha
*Less then 2200 dpm/100cm^2 Beta-gamma

If a shipment or transportation package does not meet the above contamination requirements, the licensee shall take actions to reduce the risk for spread of contamination.

53. A. Quarterly, the Licensee shall scrape the facility roads and document on the SRSO Daily Inspection report. The material generated from scraping the roads shall be collected within 5 days of scraping and disposed in the Class A Cell or Class A North Cell.

B. On a biweekly basis (once every two weeks) between the first day of May and the last day of September, the Licensee shall spray a polymer solution on all exposed contaminated cell areas and areas of waste within the Class A Cell and Class A North Cell which have been disturbed in the previous two weeks. The licensee will apply a polymer-based stabilizer in accordance with the manufacturer's instructions.

C. The Licensee shall minimize the dust created during the process of placing and moving waste, through the use of water. Water or other engineering controls shall be placed on roads and in areas which work is being performed.

D. The Licensee shall cease loading, hauling, and dumping of un-containerized waste whenever the 5-minute average wind velocities exceed 35 miles per hour. When both the 5-minute average and 5-minute maximum wind velocities are less than 35 mph as observed on the meteorological station, management of un-containerized waste may resume.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

54. The Licensee shall fulfill and maintain compliance with all conditions and requirements in the Site Radiological Security Plan (Revision 1, November 17, 2004).

55. A. For the Class A and Class A North disposal cells, the Licensee shall ensure that the actual cumulative activity of chlorine-36 does not exceed 0.2828 picocuries per gram in accordance with the following formula:

$$\frac{\text{Total Activity of chlorine-36 Received (picocuries)}}{\text{Total Mass of Active Cell (grams) + Completed Cell (grams)}} \leq 0.2828 \text{ picocuries per gram}$$

B. For the Class A and Class A North disposal cells, the Licensee shall ensure that the actual cumulative activity of berkelium-247 does not exceed 0.0001 picocuries per gram in accordance with the following formula:

$$\frac{\text{Total Activity of berkelium-247 Received (picocuries)}}{\text{Total Mass of Active Cell (grams) + Completed Cell (grams)}} \leq 0.0001 \text{ picocuries per gram}$$

C. For the Mixed Waste disposal cell, the Licensee shall ensure that the actual cumulative activity of chlorine-36 does not exceed 8.75 picocuries per gram in accordance with the following formula:

$$\frac{\text{Total Activity of chlorine-36 Received (picocuries)}}{\text{Total Mass of Active Cell (grams) + Completed Cell (grams)}} \leq 8.75 \text{ picocuries per gram}$$

D. For the Mixed Waste disposal cell, the Licensee shall ensure that the actual cumulative activity of berkelium-247 does not exceed 0.00314 picocuries per gram in accordance with the following formula:

$$\frac{\text{Total Activity of berkelium-247 Received (picocuries)}}{\text{Total Mass of Active Cell (grams) + Completed Cell (grams)}} \leq 0.00314 \text{ picocuries per gram}$$

56. Containerized Class A waste shall be certified by the generator to meet the Licensee's Waste Acceptance Criteria in accordance with the Waste Characterization Plan described in License Condition 58.

57. The Licensee shall move rail shipments into the Restricted Area within seven (7) days of arrival or return to the carrier when management of the waste is not possible within the (7) day period, unless additional time is approved by the Executive Secretary of the Division of Radiation Control. The Licensee may perform the following activities on rail lines, not including the main line adjacent to Section 32:

A. Visual Inspection

B. Radiation level surveys

C. Affix labels

58. The Licensee shall fulfill and maintain compliance with all conditions and requirements in the LLRW Waste Characterization Plan (October 29, 2004).

59. Reserved.

60. All wind dispersed litter located outside of the disposal cell/embankments, shall be retrieved by the Licensee and returned to the Licensee's control within 24 hours.

61. Truck, railcar, and other equipment washdown (decontamination) facilities, including evaporation ponds, shall be controlled with fences or other approved barriers to prevent intrusion.

62. All burial embankments and waste storage areas, including immediately adjacent drainage structures, shall be controlled areas, surrounded by a six-foot chain link fence. Upon site closure, all permanent fences shall be six-feet high chain link topped with three strand barbed wire, tip tension wire, and twisted selvedge.

63. Radioactive and mixed wastes within Section 32 and all rail spurs controlled by the Licensee around the Licensee's Disposal Facility are possessed by the Licensee. Waste conveyed to the facility by truck is in transport as long as the commercial carrier driver and vehicle remain at the Clive disposal facility. The Licensee does not possess such waste for purposes of determining compliance with surety requirements and SNM quantity limits, except that the Licensee does, however, possess any waste containing SNM that is not disposed of on the day it is delivered to the facility.

64. "Disposal" is the locating of radioactive waste into a lift of the disposal embankment. Disposal does not include the storage of waste in containers on a lift when the container will ultimately be emptied, the staging of containerized waste in the disposal embankment; or waste as "In Cell Bulk Disposal".

MANIFEST/SHIPPING REQUIREMENTS

65. The Licensee shall comply with UAC R313-15-1006 and UAC R313-25-33(8), Requirements for Low-Level Waste Transfer for Disposal at Land Disposal Facilities and Manifests.

66. The Licensee shall not accept radioactive waste for storage and disposal unless the Licensee has received from the shipper a completed manifest that complies with UAC R313-15-1006 and UAC R313-25-33(8).

67. The Licensee shall maintain copies of complete manifests or equivalent documentation required under Conditions 65 and 66 until the Executive Secretary authorizes their disposition.

68. The Licensee shall immediately notify the Executive Secretary or the Division's on-site representative of any waste shipment where there may be a possible violation of applicable rules or license conditions.

69. The Licensee shall require anyone who transfers radioactive waste to the facility to comply with the requirements in UAC R313-15-1006.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

70. The Licensee shall acknowledge receipt of the waste within one (1) week of waste receipt by returning a signed copy of the manifest or equivalent document to the shipper. The shipper to be notified is the Licensee who last possessed the waste and transferred the waste to the Licensee. The returned copy of the manifest or equivalent documentation shall indicate any discrepancies between materials listed on the manifest and materials received.

71. The Licensee shall notify the shipper (e.g., the generator, the collector, or processor) and the Division when any shipment or part of a shipment has not arrived within 60 days after receiving the advance manifest.

72. The Licensee shall maintain a record for each shipment of waste disposed of at the site. At a minimum, the record shall include:

    A. The date of disposal of the waste;

    B. The location of the waste in the disposal site;

    C. The condition of the waste packages received;

    D. Any discrepancy between the waste listed on the shipment manifest or shipping papers and the waste received in the shipment;

    E. A description of any evidence of leaking or damaged packages or radiation or contamination in excess of applicable regulatory limits; and

    F. A description of any repackaging of wastes in any shipment.

FINANCIAL ASSURANCE/CLOSURE

73. The Licensee shall maintain a Surety that satisfies the requirements of UAC R313-25-31 in an amount adequate to fund the decommissioning and reclamation of Licensees' grounds, equipment and facilities by an independent contractor. The Licensee shall annually review the amount of surety and submit a report of its findings to the Executive Secretary by August 31 each year. The Executive Secretary shall annually determine the required amount of surety under the Surety and shall require the Licensee to adjust the surety as necessary to reflect any increase in decommissioning and reclamation costs.

74. One (1) year prior to the anticipated closure of the site, the Licensee shall submit for review and approval by the Executive Secretary a site decontamination and decommissioning plan. As part of this plan, the Licensee shall demonstrate by measurements and/or modeling that concentrations of radioactive materials which may be released to the general environment, after site closure, will not result in an annual dose exceeding 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other organ of any member of the public.

75. In accordance with UAC R313-25-33(6), the Licensee shall submit a financial statement annually by March 31st of each year for the previous year.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

SPECIAL HANDLING

76. Except while waste packages are being handled in the active areas of the Containerized Waste Facility, external gamma radiation levels shall not exceed 40 mR/hr at one meter from the surface of any emplaced waste package or from shielding placed around disposed waste containers.

77. Reserved.

78. The Licensee shall observe the following controls on waste handling at the Containerized Waste Facility:

    A. Before unloading any waste container whose external gamma radiation at the surface exceeds 10 R/hr, an ALARA review shall be performed and documented and a pre-job briefing shall be conducted.

    B. As part of the ALARA review, the Licensee shall determine and record (1) estimates of the radiation dose rates for the waste container, disposal unit working face, and any other potentially significant radiation sources; (2) expected durations of exposures to and distances from each radiation source; and (3) expected doses to each person involved in the actual disposal operation.

    C. Before unloading any waste container whose external gamma radiation at the surface exceeds 200 R/hr, a practice run shall be conducted. The practice run shall involve shielding, container(s) filled with non-radioactive material, and handling equipment that are similar to those involved with the actual shipment. Similarity includes similar rigging and physical characteristics (e.g., weight, dimensions, and attachments). Those personnel who will participate in receiving, processing, handling, and disposing of the actual waste will participate in the practice run, using actual procedures. The Licensee shall notify the Division 24 hours in advance of conducting the practice runs.

    D. On a case-by-case basis, the Executive Secretary may exempt the Licensee from conducting the required practice run, considering the results of earlier practice runs and actual experience handling waste containers with high radiation levels.

79. Reserved.

80. The Licensee shall notify in writing the Executive Secretary at the earliest possible date, but no later than 10 days before scheduled receipt of each shipment with contact radiation levels in excess of 200 R/hr. The notification shall include the anticipated dates of receipt and plan for disposal in the Containerized Waste Facility.

81. The Containerized Waste Facility Corporate Radiation Safety Officer or other qualified person he designates shall be present for and shall observe the receipt, processing, handling, and disposal of each waste package with contact radiation levels in excess of 200 R/hr.

82. The Licensee shall dispose of only closed containers in the Containerized Waste Facility. The Licensee shall not dispose of any breached waste container in the Containerized Waste Facility without first repairing the breached container or overpacking it in an undamaged container. The Licensee is authorized to open packages at its facility only to:

A. Repair or repackage breached containers.

B. Inspect for compliance with conditions of this license.

C. Confirm package contents.

D. Accomplish other purposes as approved by the Executive Secretary.

83. The Licensee shall handle and emplace LLRW packages in the Containerized Waste Facility such that packaging integrity is maintained during handling, emplacement, and subsequent backfilling. Waste packages deposited in the Containerized Waste Facility shall be protected from any adverse effects of operations which may damage them.

SEALED SOURCES AND/OR DEVICES

84. A. i. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by equivalent regulations of an Agreement State.

ii. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by equivalent regulations of an Agreement State prior to the transfer, a sealed source received from another person shall not be put into use until tested.

iii. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 3 years without being tested for leakage and/or contamination.

iv. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 μCi) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 μCi) or more of removable contamination, a report shall be filed with the Executive Secretary in accordance with R313-15-1208, and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Utah Radiation Control Rules. The report shall be filed within 5 days of the date the leak test result is known with the Division of Radiation Control, P.O. Box 144850, Salt Lake City, Utah 84114-4850. The report shall specify the source involved, the test results, and corrective action taken.

v. (a) The licensee is authorized to collect leak test samples in accordance with Condition 85.D of this license, the licensee's renewal application (dated March 1, 2001), and the licensee's Memo (dated March 11, 2002).

(b) The analysis of leak test samples shall only be performed by individuals who meet the qualifications of a Health Physics Technician I or II, as defined by this license. The analysis of leak test samples shall be performed in accordance with the licensee's renewal application (dated March 1, 2001), and the licensee's Memo (dated March 11, 2002). Alternatively, tests for leakage and/or contamination, including sample collection and analysis, may be performed by other persons specifically licensed by the Executive Secretary, the U.S. Nuclear Regulatory Commission, or an Agreement State to perform such services.

vi. Records of leak test results shall be kept in units of Becquerels or microcuries and shall be maintained for inspection by representatives of the Executive Secretary.

B. Sealed sources or source rods, containing licensed material shall not be opened or sources removed from source holders, devices, or detached from source rods by the licensee, except as specifically licensed by the Executive Secretary, an Agreement State, or the U.S. Nuclear Regulatory Commission to perform such services.

C. The licensee shall conduct a physical inventory every six months to account for all sealed sources and/or devices received and possessed under this license. The records of inventories shall be maintained for three years from the date of the inventory for inspection by the Division, and shall include the quantities and kinds of radioactive material, manufacturer's name and model numbers, location of the sources and/or devices, and the date of the inventory.

PORTABLE GAUGING DEVICES:

85. A. Each portable gauging device shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.

B. Each portable gauging device shall be kept under the constant surveillance (direct surveillance) of individuals trained in accordance with Condition 32.B of this license, when the device is not in secured storage, as required by Condition C of this license condition.

C. When a portable gauging device is not in transit or under constant surveillance (direct surveillance) as required by Condition B of this license condition:

i The licensee shall secure the device in accordance with R313-15-801(1) and (2).

ii. The licensee shall not:

(a) leave the device unattended or unsecured;

(b) chain the device to a post, chain the device in the back of an open bed truck; or secure the device in any similar manner.

D. Any cleaning and/or maintenance of portable gauging device(s) or the collection of leak test samples, performed by the licensee, shall only be performed with the radioactive source/source rod in the safe shielded position.

E. All cleaning and/or maintenance of portable gauging device(s), performed by the licensee shall only be performed in accordance with Condition D of this license condition, and the manufacturer's instructions and recommendations.

F. Any cleaning, maintenance, or repair of portable gauging device(s) that requires removal of the sources/source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Executive Secretary, an Agreement State, or the U.S. Nuclear Regulatory Commission to perform such services.

DOSIMETER CALIBRATOR(S)/IRRADIATOR(S):

86. A. The LDM-2000 reader shall only be connected to a maximum of two IRD-2000 irradiator modules.

B. Devices(s) shall only be:

i. installed in areas where device(s) can be secured and limited to individuals authorized to use device(s) pursuant to Condition A of this license condition and Condition 32.C of this license.

ii. used by individuals who meet the qualifications of a Health Physics Technician I or II, as defined by this license.

iii. used in accordance with the manufacturer's operating manual and certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by equivalent regulations of an Agreement State. The licensee shall follow the manufacturer's recommendations for preventative maintenance and operational testing.

C. Maintenance and servicing of device(s) shall only be performed by the manufacturer or persons specifically licensed by the Executive Secretary, the U.S. Nuclear Regulatory Commission, or an Agreement State to perform such services.

D. The licensee shall not perform calibration(s) for non-MGP Instrument dosimeters.

CLOSEOUT CONDITIONS

87. Except as specifically provided otherwise in this license, the Licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Utah Radiation Control Rules, Utah Administrative Code R313 shall govern unless the statements, representations, and procedures in the Licensee's application and correspondence are more restrictive than the rules.

A. License renewal application, revision 6, dated 16 March 1998.
B. Letter dated October 23, 1998.
C. Letter dated January 15, 1999.

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

D. Letters dated February 16, 1999, March 10, 1999, and March 23, 1999.
E. Letter dated April 19, 1999, and the U.S. Nuclear Regulatory Commission's Order dated May 7, 1999, and other administrative changes.
F. Letter dated July 15, 1999.
G. Letter dated September 1, 1999.
H. Letters dated July 15, 1999, June 28, 1999, August 27, 1999, October 19, 1998 and August 19, 1999.
I. Letters dated October 15, 1999, and November 4, 1999.
J. Letters dated June 3, 1999, November 5, 1999, February 16, 2000, and March 21, 2000.
K. Letters dated April 28, 2000, May 5, 2000, May 10, 2000, and June 6, 2000.
L. The following documents refer to the Class A disposal cell.
   (1) Letters dated September 24, 1999, March 6, 2000, April 14, 2000, July 21, 2000, July 26, 2000, August 8, 2000 and August 15, 2000.
   (2) Revised Run-On/Run Off Berm Calculations dated May 26, 2000.
   (3) Revised Engineering and Modeling Analysis dated June 19, 2000.
M. Request for License Amendment: Containerized Class A LLRW Disposal, dated Apr.12, 2001.
N. Engineering Justification Report, Addendum "Fifteen Percent Void Space Criteria" (Revision 1 dated October 10, 2001).
O. AMEC letter to Envirocare of Utah, Inc. "Placement of Drums and B-25 Containers with 15 Percent Voids; Envirocare Class A - Containerized Waste Facility Near Clive, Utah" (dated October 2, 2001).
P. AMEC letter to Envirocare of Utah, Inc. "Response to Interrogatory Number 2: Placement of HICs in Caissons; Envirocare Class A Disposal Facility Near Clive, Utah"(dated October 1, 2001).
Q. The following documents refer to revisions made in Amendment 14.
   (1) Letters dated January 22, 2002, June 28, 2002.
   (2) Appendix I, *Organization* (dated July 31,2002, Revision 14d). Letter dated July 31, 2002.
   (3) Site Radiological Security Plan (dated June 27, 2002, Revision 0). Letter dated June 27, 2002.
   (4) In reference to Thermal Desorption treatment, letter dated May 13, 2002.
R. Letter CD02-0475, dated November 19, 2002, (Change of Address)
S. Letter CD03-0045, dated January 24, 2003 refers to revisions made in Amendment 16.
T. The following documents refer to revisions made in Amendment 17:
   (1) Letter CD03-0259, dated June 6, 2003 refers to increase in open cell area.
   (2) Letter CD03-0249, dated May 29, 2003 refers to maintenance of a contaminated shipping cask used as a training aid device.
   (3) Letter CD03-0145, dated March 31, 2003 refers to revisions to Appendix I, *Organization*.
   (4) Letter CD03-0139, dated March 27, 2003 refers to personnel title changes.
   (5) Email: Tye Rogers to Dane Finerfrock, 4/14/03 11:12AM, Subject: Amendment 16.
   (6) Letter CD02-0447, dated October 31, 2002 refers to revisions to Appendix R, *Environmental Monitoring and Surveillance Plan*.
U. The following documents refer to revisions made in Amendment 18:
   (1) Letter CD02-0374, dated September 16, 2002 refers to initial amendment request.
   (2) Email: Tye Rogers to John Hultquist, August 5, 2003 correspondence regarding several

issues regarding proposed changes to Waste Characterization Plan.

(3) Letter from Radiation Control to Tye Rogers dated August 26, 2003 refers to proposed changes to the Waste Characterization Plan.

(4) Letter CD03-0371 dated August 27, 2003 response to DRC letter dated August 26, 2003 and revised Waste Characterization Plan dated August 27, 2003.

V. The following documents refer to revisions made in Amendment 19:

(1) *Envirocare of Utah Mixed Waste Cell Infiltration and Transport Modeling,* Whetstone Associates, November 22, 2000.

(2) Letter CD01-0377, dated August 23, 2001, addendum to Class A Cell modeling (Whetstone Associates, Inc August 21, 2001 Technical Memorandum).

(3) Letter DRC, dated March 5, 2003 acceptance of Mixed Waste disposal cell cover system design.

(4) Letter CD03-0123, dated March 24, 2003, initial request to allow full Class A LLRW at the Mixed Waste Facility.

(5) Letter CD03-0428, dated October 20, 2003, response to DRC request for additional information regarding Class A waste at the Mixed Waste Cell.

(6) Letter CD03-0430, dated October 22, 2003, justification for allowable concentrations of Californium isotopes at the Mixed Waste Cell.

(7) Letter CD03-0257, dated June 5, 2003, initial request to allow placement of mobile wastes in the sideslopes of the LARW Cell.

(8) Letter CD03-0295, dated July 7, 2003, response to DRC concern regarding the transition zones between the non-mobile and mobile cover designs.

(9) Letter DRC, dated October 9, 2003, authorization for Licensee to dispose of mobile wastes in accordance with the Groundwater Discharge Permit modification prior to amending the License.

(10) Letter DRC, dated April 23, 2004, approval of open cell area expansion request.

W. The following documents refer to revisions made in Amendment 20:

(1) Letter CD03-0303, dated February 14, 2003: Waste Management Plan (WMP).

(2) Email: Tye Rogers to John Hultquist, dated August 6, 2003 regarding several issues proposed to the Waste Management Plan.

(3) Letter dated November 12, 2003, regarding four issues pertaining to the Waste Management Plan.

(4) Letter CD03-0495, dated December 1, 2003, Response to November 12, letter regarding issues pertaining to the Waste Management Plan.

(5) Letter dated December 9, 2003, Waste Management Plan issues.

(6) Email from John Hultquist to Tye Rogers, regarding meeting held January 13, 2004.

(7) Letter CD04-0033, dated January 22, 2004, Waste Management Plan issues.

(8) Letter dated February 6, 2004, responding to Envirocare's letter dated January 22, 2004.

(9) Letter CD03-0303, dated July 9, 2003, Organization rev. 15a.

(10) Letter CD04-0082, dated February 19, 2004, rev 16, and Letter CD04-0195, dated April 23, 2004, rev16; Appendix I, *Organization.*

(11) Letter CD03-0405, dated September 23, 2003, request to amend license conditions 37,

76, and 78.

(12) Meeting notes from two meetings held with Envirocare dated November 19, 2003 and June 17, 2004.

(13) Email from Boyd Imai to Mark Ledoux dated June 22, 2004.

(14) Letter CD04-0338, August 25, 2004, amendment request regarding license conditions 76 and 78.

X. The following documents refer to revisions made in Amendment 21:

(1) Letter and renewal application CD04-0549, dated December 23, 2004, request to change license condition 1.

(2) Letter CD04-0499, dated November 8, 2004, Radiological Security Plan revision, license condition 54.

(3) Letter CD04-0508, dated November 17, 2004, Radiological Security Plan revision, license condition 54.

(4) Letter CD05-0071, dated February 17, 2005, request to amend license conditions 39(C) and 39(E).

(5) Letter CD05-0073, dated February 16, 2005, request for interim storage/corrective action plan.

(6) Email from John Hulquist to Mark Ledoux, dated February 11, 2005, regarding interim storage/corrective action plan.

(7) Email from Mark Ledoux to John Hulquist, dated January 27, 2004, regarding interim storage/corrective action plan.

(8) Email from Dane Finerfrock to Mark Ledoux, dated November 2, 2004, regarding interim storage/corrective action plan.

(9) Letter CD05-0024, dated January 20, 2004 self identification concrete overpack QA/QC deficiencies.

(10) Letter CD05-0095, dated February 28, 2005, changes to the license application regarding electronic dosimetry.

(11) Email from Joe Heckman to John Hultquist dated 12-17-2004, regarding revised documents to eliminate 50 mR/hr investigation.

(12) Letter CD05-0064, dated February 10, 2005, request to amend license condition 11.

(13) Letter from Dane Finerfrock to Tye Rogers, dated February 22, 2005, increase open cell approval.

(14) Letter and renewal application CD01-0089, dated March 1, 2001, application for license renewal (UT 2300320).

(15) Email: Brian Clayman to Julie Felice, dated January 7, 2002, request for the addition of another gauge storage location and the designation of a different Radiation Safety Officer for license (UT 2300320).

(16) Memo: Brian Clayman to Clark Clements, dated March 11, 2002, supplementary information for renewal of license (UT 2300320).

(17) Email: Brian Clayman to Clark Clements, CD02-0132 dated April 3, 2002, supplementary information for renewal of license (UT 2300320).

(18) Letter CD02-0304, dated August 2, 2002, request to add sealed sources for whole body

UTAH DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License #UT 2300249
Amendment #22

counter to license (UT 2300320).

(19) Letter CD02-0471, dated November 15, 2002, request for approval to move nuclear gauge storage location (UT2300320).

(20) Letter CD03-0055, dated February 3, 2003, supplementary information regarding gauge storage in Engineering Lab Trailer (UT2300320).

(21) Letter CD03-0091, dated June 5, 2003, request to purchase a model MC-S-24 strata nuclear gauge (UT 2300320).

(22) Letter CD03-0320, dated July 22, 2003, request to change Site Radiation Safety Officer for UT 2300320.

(23) Letter CD04-0057, dated February 5, 2004, request to add a sealed source (contained in a calibrator) for the calibration of electronic dosimeters (UT2300320).

(24) Letter CD04-0216, dated May 3, 2004, request to change Corporate Radiation Safety Officer and add radioactive materials to UT 2300249.

Y. The following documents refer to revisions made in Amendment 22:

(1) Letter CD04-0481, dated October 27, 2004, Amendment and Modification Request – Class A North Embankment.

(2) Letter CD04-0548, dated December 23, 2004, Revised Class A North Disposal Embankment License Amendment Request.

(3) URS Review of Revised Class A North Embankment Amendment Request, dated December 29, 2004.

(4) Letter CD05-0024, dated January 17, 2005, Class A North Disposal Embankment License Amendment Request Revision 2.

(5) Letter CD05-0265, dated May 20, 2005, Revision of Appendix R, Environmental Monitoring and Surveillance Plan.

(6) Letter CD05-0266, dated May 25, 2005, Surety Calculations for the Class A North Disposal Cell.

(7) Memo: Treesa Parker to John Hultquist, dated May 25, 2005, Proposed revisions to RML for Amendment 22

(8) Email: Treesa Parker to Christine Hiaring, dated June 1, 2005, License Amendment 22 Minor Changes for Consistency.

UTAH RADIATION CONTROL BOARD

_____ _____

Dane L. Finerfrock, Executive Secretary Date