ADAM M. KUSMAK, GS-13, USAF
Chief, Installation Management Flight (49 CES/CEI)
49th Civil Engineer Squadron (49 CES)
Holloman Air Force Base, NM

Mr. John E. Kieling
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East Bldg. 1
Santa Fe NM 87505-6063

SUBJECT: RESPONSE LETTER TO NMED APPROVAL WITH MODIFICATION LETTER, FINAL
INTERIM MEASURES REPORT, SITE RW042 – RADIOACTIVE WASTE DISPOSAL
AREA (SWMU 111), MAY 2018
HOLLOMAN AIR FORCE BASE
EPA ID# NM6572124422
HWB-HAFB-18-009

Dear Mr. Kieling,

Holloman Air Force Base (AFB) is pleased to submit this response to the Approval with Modification Letter (October 31, 2018) on the Final Interim Measures Report, Site RW042 – Radioactive Waste Disposal Area (SWMU 111), May 2018, provided by the New Mexico Environment Department (NMED) to Holloman AFB.

The Approval with Modification Letter requested that Holloman AFB provide a Supplemental Interim Measures Work Plan to propose further characterization (i.e. non-destructive testing such as x-ray imaging) of the concrete cylinders to facilitate shipping and acceptance at a licensed disposal facility. As described in the meeting between contractors (FPM/URS), the Air Force, and NMED on August 27, 2019, the Air Force had already conducted radiographic imaging of the cylinders during the period that NMED was reviewing the subject Interim Measures Report. Therefore, since the request has been overcome by events, this Response Letter is submitted in lieu of the Supplemental Interim Measures Work Plan to provide the radiographic images that were obtained and describe the proposed path forward and relevant documentation for shipping and disposal of the Site RW042 concrete cylinders.

The radiographs of the concrete cylinders were imaged by Mistras Group Inc. on September 12, 2018. Due to the size of the cylinders (approximately 18 in. high by 18 in. diameter) neutron radiography was used instead of x-rays, with a cobalt-60 source. Radiographs of side views and top views of the cylinders were collected (Attachment A). Based on a review by URS/FPM and HAFB, the radiographs were inconclusive as to the contents, although indiscernible objects are visibly embedded within the concrete cylinders.

A waste broker (Hidden Waters, Inc.) has been subcontracted by FPM/URS to handle packaging and shipment of the cylinders to Alaron Nuclear Services (Wampum, PA) for additional destructive testing and characterization. Upon completion of this characterization the cylinders and their contents will be repackaged and transported for final disposal at Waste Control Specialists (WCS) in Andrews, TX.
New Mexico falls under the jurisdiction of the Rocky Mountain Low Level Radioactive Waste Compact (Compact), and therefore requires a Waste Export Permit (permit) for shipments of potentially low level radioactive materials leaving the Compact region. At the time of this Response Letter, the permit application certification letter (Attachment B) and permit application (Attachment C) have been submitted to and approved by the Rocky Mountain Low Level Radioactive Waste Board (Board). Upon the Board’s approval, they provided the permit Terms and Conditions Letter, which has been signed by Holloman Air Force Base (Attachment D).

In accordance with Nuclear Regulatory Commission (NRC) and U.S. Department of Transportation (USDOT) regulations, Uniform Low-Level Radioactive Waste Manifest Forms (NRC Forms 540/541) will be required for shipment of the cylinders. A copy of the NRC 540/541 Forms are provided in Attachment E.

After initial excavation of the cylinders, packaging for shipment will be completed in accordance with DOT 49 CFR § 173.410 and § 173.411 with IP-1 containers.

At the time of this Response Letter, removal of the concrete cylinders from Site RW042 and transportation to Alaron Nuclear Services is tentatively planned for the second week in November, 2019. As discussed with NMED on August 27, 2019, and in accordance with the Approval with Modifications Letter (October 31, 2018), removal of the cylinders from Site RW042 will complete the requirements for achieving Corrective Action Complete, without Controls. Following removal, Holloman Air Force Base will submit a Corrective Action Complete Proposal (permit modification request), which will include all information for the Statement of Basis and records demonstrating the final removal, packaging and shipping, any additional characterization at Alaron Nuclear Services, and final disposition of the cylinders at WCS.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions regarding this submittal, please contact me at (575) 572-6675.

Sincerely,

KUSMAK.ADA
M.M.12633318
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ADAM M. KUSMAK, GS-13, USAF

Attachment A - Radiographs of concrete cylinders
Attachment B - Waste Export Permit Certification Letter
Attachment C - Waste Export Permit Application
Attachment D - Waste Export Permit Terms and Conditions Letter
Attachment E - NRC 540/541 forms

cc:
(w/Atch) (w/CD) (w/o Atch)
Mr. David Strasser Mr. Chuck Hendrickson Mr. Cornelius Amindyas
Hazardous Waste Bureau U.S. Environmental Protection Agency Hazardous Waste Bureau
121 Tijeras Dr. NE, Ste.1000 445 Ross Avenue, Suite 1200 121 Tijeras Dr. NE, Ste. 1000
Albuquerque NM 87102-3400 Dallas TX 75202-2733 Albuquerque NM 87102-3400

The information herein is For Official Use Only (FOUO) which must be protected under the Freedom of Information Act of 1966 and Privacy Act of 1974, as amended. Unauthorized disclosure or misuse of this PERSONAL INFORMATION may result in criminal and/or civil penalties.
Attachment A
Radiographs of Concrete Cylinders
Cylinder #4 Top View
Attachment B
Waste Export Permit Certification Letter
15 August 2019

Maj Brian Shuler
Installation Radiation Safety Officer
49 WG
Holloman Air Force Base, NM

Rocky Mountain Low-Level Radioactive Waste
Board Attn: Mr. Leonard C. Slosky, Executive Director
999 18th Street
Suite 2400 S
Denver, CO 80202

Re: Permit Application – Low Level Radioactive Waste Export
Holloman Air Force Base, New Mexico, Site RW042 concrete

Mr. Slosky,

My office is responsible for the management and safety of radioactive materials for the United States Air Force (USAF) at Holloman Air Force Base (AFB) in New Mexico. I am writing to inform the Rocky Mountain Low Level Radioactive Waste Board (LLRWB) that Holloman AFB has accumulated exempt radioactive waste which requires disposal outside of the Rocky Mountain Compact (Compact) region. The exempt waste was generated within the Compact region, at Holloman AFB.

The Rocky Mountain LLRWB requires an export permit prior to shipment for low level radioactive waste disposed of outside the Compact region. Section 6.3.3-J of the LLRWB Rules requires the generator to certify that the site will take any material back which is deemed unacceptable for management or disposal. This letter certifies that Holloman AFB agrees to receive back the waste shipped off-installation in the unlikely event that the material is not accepted for management at Alaron Nuclear Services in Wampum, PA or for disposal at Waste Control Specialists in Andrews, TX.

Section 6.3.3-J also requires the generator to certify that it possesses a radioactive material license; however, it is Holloman AFB’s position that the material being exported is not licensed and is exempt from licensing requirements by rule. Section 6.3.3-J states "A certification from the generator that the generator is licensed (for radioactive material) and/or permitted (for hazardous waste), if applicable, and agrees to receive back the waste if its management or disposal is not allowed.

Holloman AFB does not currently have a permit issued under the USAF Master Material License No. 42-23539-01AF. Holloman has specifically reduced the inventory of radioactive material at the AFB and, more specifically, items that require a radioactive materials license or permit authorization under the Master Material License or as required by the Nuclear Regulatory Commission. As such, Holloman AFB is only in possession of materials that are specifically exempted from license requirements in 10 CFR part 30, 10 CFR part 31 and 10 CFR part 40. Holloman AFB is able to acquire a permit for possession under the Master Material License, should the additional characterization to be performed by Alaron Nuclear Services indicate that the waste must be returned to the Base.

COMBAT AIRPOWER STARTS HERE
Attachment B

Based on the specific exemptions from the licensing requirement, it is Holloman’s position that the need for a radioactive materials license is not applicable to this waste and not required to approve the export permit. The attached information is based on historical documentation and additional recent investigation, and incorporates conservative estimates to support application for a low level radioactive waste export permit.

If you have any questions regarding this submittal, please contact me by email at brian.d.shuler2.mil@mail.mil.

Attachment(s): Application – Low Level Radioactive Waste Export Permit, Site RW042. Hard copy and CD.

cc: Mr. James (Scott) Dorton, HAFB (w/Atch)
Mr. Charles Schick, HAFB (w/Atch)
Ms. Robin Paul, AFCEC (w/CD)
Mr. Brian Renaghan, AFCEC (w/CD)
Mr. Madison Knopp, AGEISS (w/CD)
Attachment C
Waste Export Permit Application
APPLICATION TO EXPORT
LOW LEVEL RADIOACTIVE WASTE
FROM THE ROCKY MOUNTAIN COMPACT

A. Name, address and phone number of the person seeking to export the waste:
49th Civil Engineer Squadron (49 CES)
Holloman Air Force Base, NM
Adam Kusmak, GS-13, USAF
Chief, Installation Management Flight (49 CES/CEI)
(575) 572-6675

B. Name, address and phone number of the person who generated the waste:
49th Civil Engineer Squadron (49 CES)
Holloman Air Force Base, NM
Adam Kusmak, GS-13, USAF
Chief, Installation Management Flight (49 CES/CEI)
(575) 572-6675

Authorized manifest signatory:
Isamar Nieves-Cancel, GS-11 USAF

C. Type of waste (categorized according to Appendix A) which the applicant seeks to export and certification from the generator as to whether any portion of the waste is NORM/TENORM:
Radioactive Commodities- aircraft dials and exempt electron tubes
Radioactive Sealed Sources- exempt check sources

D. A certification from the generator that the waste was generated within the region:
(See attached letter)

E. For each type of waste the applicant seeks to export, the volume of waste (in cubic feet) including the outermost container:
Radioactive Commodities: 62 cubic feet (ft³)
Sealed Check Sources: 2 ft³

F. For each type of waste the applicant seeks to export, the quantity of:
1. Byproduct material in curies: $2.92 \times 10^{-4}$ curies
2. Source material in kilograms and the total uranium and thorium content in percent by Weight: N/A
3. Special nuclear material in grams: N/A
4. Transuranic waste in nanocuries per gram and total weight in grams of the transuranic elements: N/A

5. The summed activity of radioactivity of all naturally occurring radioactive material (NORM) and technically enhance naturally occurring radioactive material (TENORM) radionuclides in picocuries per gram and accelerator produced radioactive material (NARM) in nanocuries per gram and the total weight in grams of the waste containing NORM, TENORM and/or NARM: 
   7.65E-05 curies

6. The concentration of Ra-226 in picocuries per gram: 
   8.62E+03 picocuries per gram (pCi/g)

7. The quantity of waste the applicant seeks to export that could be lawfully be accepted for disposal by the regional facility: 
   This waste is not acceptable at the regional facility

G. The date on which the export is expected to take place: 
   This waste will be exported between 3/1/2019 and 12/31/2019

H. For waste exported for management prior to disposal, the name and location of all facilities where the management will take place and the volume of waste that will be sent for management at each such facility: 
   62 ft³ - Alaron Nuclear Services, 2138 State Route 18, Wampum, PA 16157

I. For the disposal of the waste that the applicant seeks to export: 
   1. The disposal facilities at which the waste will be disposed: 
      Waste Control Specialists-Andrews, TX

   2. The volume of waste in cubic feet including the outermost container that will be disposed of at each disposal facility (following management if applicable): 
      62 ft³ - Waste Control Specialists (WCS), Andrews, TX

   3. The date by which the disposal will occur at each facility: 
      Before 12/31/2019

   4. If any portion of the waste is to be disposed of at the Benton County, Washington facility, an explanation of whether the waste is acceptable at the disposal facilities other than the Benton County, Washington facility: 
      N/A

   5. For devices containing sources or sealed sources being exported for disposal by the manufacture of the devices, documentation of: 
      a. The date(s) when the device(s) were manufactured: N/A
b. The date(s) when the manufacture transferred the device(s) to a third party:
   N/A

c. The date(s) when the third party returned the device(s) to the manufacture:
   N/A

J. A certification from the generator that the generator is licensed (for radioactive material)
   and/or permitted (for hazardous waste), if applicable, and agrees to receive back the waste if its
   management or disposal is not allowed:
   (See Attached Letter)

K. For waste that will be exported to another low-level radioactive waste compact, a copy of all
   necessary documents (if any) issued by the appropriate compact commission(s) authorizing the
   import of the waste into that compact region:
   Not Required

L. The reasons that the export permit should be granted, including the economic impact on the
   generator if the export application is denied:
   The US Air Force is currently seeking to dispose of the non-essential material that is not licensed
   and is exempt from licensing requirements by rule and is not acceptable at a facility within the
   RM LLW waste compact. The economic impact for the refusal of the export permit would require
   the USAF to retain personnel at the facility to store and maintain the materials for extended
   periods of time.
Attachment D

Waste Export Permit Terms and Conditions Letter
January 30, 2019

Adam M. Kusmak, GS-13, USAF
Chief, Installation Management Flight (49 CES/CEI)
49th Civil Engineer Squadron (49 CES)
Holloman Air Force Base, NM

Dear Mr. Kusmak,

This is in response to the United States Air Force at Holloman Air Force Base, NM (USAF) January 10, 2019 application to export waste from the Rocky Mountain region.

I have determined that the above-referenced application is in conformance with Board Rule 6.3. I have considered the application utilizing the factors in Board Rule 6.4.

Pursuant to Board Rule 6.5, the above-referenced export application from USAF is approved, subject to the below-listed conditions.

Processing (Export) Authorization

Upon acceptance of the below-listed conditions, USAF is authorized to export the following low-level waste generated by the Holloman Air Force Base, NM as described in the January 10, 2019 application for management at Alaron Nuclear Services, Wampum, PA:

- 62 cubic feet Radioactive Commodities (aircraft dials and electron tubes)
- 2 cubic feet Sealed Sources
- 64 cubic feet total waste

USAF is not authorized to export any wastes except those specifically described in the preceding two paragraphs. This export authorization expires on December 31, 2019.

Disposal Authorization

Upon acceptance of the below-listed conditions, USAF is authorized to dispose of the following waste at the Waste Control Specialists (WCS), TX:

- No more than 64 cubic feet of waste (radioactive commodities and sealed sources) resulting from processing the wastes exported pursuant to this authorization.
Holloman Air Force Base, NM
January 30, 2019
Page 2

USAF is not authorized to dispose of any wastes except those specifically described in the preceding paragraphs. This disposal authorization expires on December 31, 2020.

Conditions

USAF shall comply with the following conditions.

USAF shall provide a copy of the waste specific import permit from TX Compact prior to shipment to Waste Control Specialists (WCS).

None of the waste exported pursuant to this authorization nor any waste resulting from the processing of said wastes may be disposed of at the Benton County, Washington facility.

For any month during which wastes are exported from the region, USAF shall provide a report to the Board giving the date of the export, waste description, volume in cubic feet, total activity, and person to whom the wastes were shipped. Such reports shall be submitted within 30 days of the end of the month during which wastes were exported from the region.

For any month during which wastes are received by a disposal site, USAF shall ensure that WCS, TX provide a report to the Board giving the date that the waste was received, the volume of waste in cubic feet, total activity, and the name of the Rocky Mountain Compact generator of the waste. Such reports shall be submitted within 30 days of the end of the month during which wastes were received.

USAF shall immediately notify the Board in writing if it is no longer authorized by the Texas Low Level Radioactive Waste Compact Commissions to import the waste into the Texas region.

USAF shall have an authorized representative sign this export authorization and return it to the Board's offices before any of the above-referenced wastes are exported. This permit is not valid until it is signed by the Executive Director of the Rocky Mountain Low-Level Radioactive Waste Board.

FOR THE ROCKY MOUNTAIN LOW-LEVEL RADIOACTIVE WASTE BOARD

Leonard C. Slosky
Executive Director

The United States Air Force at Holloman Air Force Base, NM Hereby Accepts the Terms and Conditions of this Authorization to Export Waste.

FOR THE UNITED STATES AIR FORCE AT HOLLOMAN AIR FORCE BASE, NM

By: [Signature] [Title] [Date]

\export/2019/USAF-19-1
Attachment E
NRC 540/541 Forms
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<td>SHIPPING DATE</td>
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<td>VOLUME (m³)</td>
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**NOTE 1:** Container Description Codes. For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP."

1. Wooden Box or Crate
2. Metal Box
3. Plastic Drum or Pail
4. Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7. Polyethylene Tank or Liner
8. Fiberglass Tank or Liner
9. Demineralizer
10. Gas Cylinder
11. Bulk Unpackaged Waste
12. Unpackaged Components
13. High Integrity Container
14. Other. Describe in item 6, or additional page

**NOTE 2:** Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal
21. Inorganizer Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27. Mechanical Filter
28. EPA or State Hazardous Waste
29. Occurrence Future
30. Carbon Donor Media
31. Vacuum Exchange Media
32. Mixed Bed Ion-exchange Media
33. Conventional Equipment
34. Organic Liquid (except oil)
35. Components or Layers
36. Sealed Source Device
37. Part or Plating
38. Evaporator Bottoms/Slag gen/Concentrates
39. Compromised Waste
40. Noncompatible Trash
41. Animal Carcass
42. Biological Material (except animal carcasses)
43. Activated Material
44. Fluids
45. Soil
46. Gas
47. Waste
48. Other. Describe in item 11, or additional page

**NOTE 3:** For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "-S." For all solidification media, the vendor (manufacturer) and brand name must also be identified in item 13. Code 100=None Required.

- 90. Cement
- 91. Other. Describe in item 13, or additional page
- 92. Dibornte
- 93. Vinyl Chloride
- 94. Other. Describe in item 13, or additional page