



Department of Energy
Albuquerque Operations Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

SEP 16 1996

Mr. Joseph J. Holonich, Chief
Uranium Recovery Branch
Office of Nuclear Materials Safety
And Safeguards Mail Stop T7J9
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Vicinity Property No. AM-001
Northeast of Ambrosia Lake Site
Ambrosia Lake, NM

Dear Mr. Holonich:

In accordance with the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604), the Environmental Protection Agency (EPA) Standards (40 CFR part 192), and the Memorandum of Understanding between the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC) (GM004-85AL26037), two copies of the Vicinity Property Completion Report for the above property are submitted for NRC certification concurrence. Please note that the application of supplemental standards does not appear in the REA. Supplemental standards were applied in the field. Also enclosed to aid in the review are the NRC Review form and a copy of the Vicinity Property Certification Summary and Decision.

Should you have any questions, please contact contact John Evett of my staff at (505) 845-4865.

Sincerely,

Steven C. Hamp
Uranium Mill Tailings Remedial
Action Team Leader
Environmental Restoration Division

Enclosures

1. AM-001 Completion Report (2 Copies)
2. NRC Review Form for Supplemental Certification of VP AM-001
3. Certification Summary and Decision Form

cc w/o enclosures:

J. Hams, CDPHE
J. Evett, ERD
E. Artiglia, TAC
R. Johnson, TAC

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PDR WASTE
WM-67 PDR

WM-67 *NLO4*
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Change: recip *Mr. Gnd.*
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VP No.: AM-001
NRC Review Form
for Supplemental Certification
of Vicinity Properties

The Department of Energy (DOE) has determined that the remedial action at the following vicinity property (VP) has been completed and thereby complies with supplemental standards invoked by DOE under 40 CFR, Subpart C, specifically Subsections 192.21 and 192.22.

☐ NRC concurrence for the Radiological Engineering Assessment (REA) given on: _____

☒ Supplemental standards were not in the REA, special circumstances required that supplemental standards be involved during remedial action.

Steven C. Hamp
Steven C. Hamp, DOE Certification Officer

9/16/96
Date

=====

Based on the information and certification provided by the DOE, the NRC:

☐ concurs that the remedial action at the subject VP has been completed under its authority provided by the Uranium Mill Tailings Radiation Control Act (UMTRCA), Section 104(f)(1) and as described in the Memorandum of Understanding (MOU), Appendix A, Section 3.4.

☐ concurs, as above, except for the following conditions:

- 1.
- 2.
- 3.

☐ See attached sheets for any additional provisions.

☐ needs additional information to make a concurrence decision. This information consists of:

☐ See attached sheets for any additional informational needs.

NRC Concurring Official and Title

Date

VICINITY PROPERTY CERTIFICATION SUMMARY AND DECISION - VP NO. AM-001

The data presented in the certification folder indicate:

	Evaluation		
	Yes	No	N/A
1. The Ra-226 concentration in the top 15 cm of soil averages ≤ 5 pCi/g above background over 100 m ² , in-situ <input type="checkbox"/> lab <input checked="" type="checkbox"/> .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The Ra-226 concentration in any 15 cm of soil below the top 15 cm surface layer averages ≤ 15 pCi/g above background over 100 m ² , in-situ <input type="checkbox"/> lab <input type="checkbox"/> .	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. The indoor gamma readings are ≤ 20 μ R/h above background in every habitable room. <i>OPEN LAND - NO STRUCTURES</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. The radon daughter concentration (RDC) in any habitable room is < 0.02 working levels, or at most 0.03 WL. <input type="checkbox"/> RDC levels exceed 0.03 WL due to non-tailings material.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Supplemental standards were applied in accordance with EPA standards 40 CFR Part 192.21.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TAC Recommendation: ☐ Certification, ☒ Certification pending NRC concurrence, ☐ Hold pending long-term RDCs (detectors previously installed), ☐ Request additional measurements per the RAC/TAC consensus form, ☐ Close-out.

TAC Evaluator

Date

TAC Vicinity Property Manager

Date

Comments:

- #2) ALL VERIFICATION SOIL SAMPLES WERE < 15 cm IN DEPTH.
- #5) REASONABLE EFFORT WAS MADE TO REMEDIATE THE VP ACCORDINGLY. THE PROPERTY SHOULD BE CERTIFIED PENDING NRC & STATE CONCURRENCE.
- EXPLAIN DIFFERENCES IN SAMPLE DEPTHS FOR R_H IN TABLE 3.2 (0-12") 4T.3.3/30-36" 0-6" AM
- TABLE 3.1, SOIL SAMPLE AMB-SV-18-12-19 IS MISSING. RAW DATA PRINTOUT INDICATES A SOIL CONCENTRATION OF 1.3 pCi/g. THE RAC SHOULD INCLUDE THIS VALUE IN TABLE 3.1. (P. 509).

CERTIFICATION REVIEW SUMMARY

Vicinity Property No. AM-001

Reviewed by: Jim Kelly

Date

7/31/96

Address:

Portion of Section 28 & 33,
N & NE of Construction Boundary____
Ambrosia Lake, New Mexico

Property Category: OPEN LAND

Quantity of soil removed: 1, 177,806 (yd³)

RA Contractor: MIL FERGUSON

The recommendation for certification is based on a review of the Completion Report and other available data describing remedial actions and resulting radiological conditions at this property. Measurement methods and data are compared to the requirements provided in the Vicinity Properties Management and Implementation Manual, and in 40 CFR 192. The following recommendations are made according to the intent of those requirements.

1.0 CERTIFICATION

- ☒ This property complies with the EPA standards and is recommended for certification.
- ☐ This property is recommended for certification only after the conditions listed in 3.0, below, are met.
- ☐ Remedial actions were refused by the property owner, and the property cannot be certified.

2.0 SUPPLEMENTAL STANDARDS

- ☐ Supplemental Standards were not applied at this property.
- ☒ Supplemental Standards were applied as described in the completion report.
- ☐ The following agencies concurred in the application of Supplemental Standards at this property.

3.0 CONDITIONS

- ☐ Annual average RDC results are required.
- ☐ The following additional measurements are required:

- ☒ The following additional actions must be completed:

COMPLETE TABLE 3.1 BY ADDING DATA INFO FOR
SOIL SAMPLE AMB-SU-IX-12-19. RAW DATA WAS
AVAILABLE FOR REVIEW, YIELDING A SOIL CONC. OF
1.3 PC/G (Ra-226. REFER TO P. 509.).

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
I. SOIL EXCAVATION				
1. Were soil samples collected/analyzed? (List quantity of surface and subsurface samples.)	✓			13348 VERIFICATION SOIL SAMPLES - TABLE 3.1 15cm IN DEPTH SAMPLES APPLIED TO SUPPL. STANDARDS WERE 15cm IN DEPTH
2. Did grid intervals equal 10 meters or less? (List grid size and quantity sampled.)	✓			
3. Were adequate spatial averaging techniques clearly demonstrated?	✓			FOR SUPPL. STDS. TABLE 3.4 5-65 uR/hr @ 3 FEET. VERIFICATION WAS DEMONSTRATED BY ANALYZING SOIL SAMPLES 0.0-0.1 PG/g RAC-HP-015
4. Was an outdoor gamma survey conducted? (List results.)	✓			
5. Were alternate measurements performed? (List types of measurements, range, and average of results.)	✓			
6. Were all contaminated areas sampled after excavation?	✓			

* If no or N/A, then an explanation is required.

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
I. SOIL EXCAVATION (continued)				
7. Were soil concentrations of Ra-226, averaged over 100 square meters, less than or equal to:	✓			OPEN LAND - NO STRUCTURES
<ul style="list-style-type: none"> • 5 pCi/g plus background (surface)? • 15 pCi/g plus background (subsurface)? 				
8. If excavation was done around structures or utility conduits to structures, was contamination removed to meet EPA Standards?			✓	
II. INDOOR GAMMA SURVEY				NO STRUCTURES ON PROPERTY
1. Were assessment measurements taken in the lowest habitable level of every habitable building?			✓	
2. Were small rooms scanned and large rooms (2000ft ²) gridded at intervals of 10 feet or smaller?			✓	
3. Were verification measurements taken at locations of prior maximum readings?			✓	

* If no or N/A, then an explanation is required.

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
II. INDOOR GAMMA SURVEY (continued)				
4. Were instrument readings converted to indicate microR/hr? (List range of readings.)			✓	
5. After remedial action, was the average value for each room or 2000 ft ² area less than 20 micro/hr above background?			✓	
6. If any reading exceeded 20 microR/hr above background, was it satisfactorily investigated to ensure no tailings involvement?			✓	
III. INDOOR RDC MEASUREMENTS				
1. If RDC measurements were performed before remedial action, and results were above standards, were they repeated after remedial action was complete?			✓	NO STRUCTURES ON PROPERTY
2. If RDC measurements were not performed before remedial action, were they taken in every habitable structure after remedial action?			✓	

* If no or N/A, then an explanation is required.

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
III. INDOOR RDC MEASUREMENTS (continued)				
3. If tailings were excavated within 10 ft of the structure or around utility conduits into the structure, were RDC measurements performed after remedial action?			✓	
4. If grab samples were used for verification, were acceptable procedures used?			✓	
5. Were grab sample results less than 0.01 WL? (List range and average of results.)			✓	
6. If annual average measurements were used for verification, were acceptable procedures followed?			✓	
7. Were annual average RDC results less than EPA WL standards (0.02 WL)? (List range and average of results.)			✓	
8. If annual average RDC results were between 0.02 WL and 0.03 WL, was appropriate justification given?			✓	

* If no or N/A, then an explanation is required.

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
IV. OTHER VERIFICATION MEASUREMENTS				
1. If adequate verification data are not presented, were additional measurements taken?			✓	
2. Were acceptable procedures used?			✓	
3. Were surface alpha contamination levels less than: <ul style="list-style-type: none"> • 1000 dpm/100 cm² for removable alpha activity? • 5000 dpm/100 cm² for total alpha activity? 			✓	
4. Were additional measurements performed? (List type and results?)			✓	

* If no or N/A, then an explanation is required.

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
V. SUPPLEMENTAL STANDARDS				
1. If numerical standards were not met, is this due to the presence of natural radioactivity? What data show this?		✓		HOWEVER, THERE ARE AREAS SUSPECTED TO HAVE NATURAL ORE.
2. If all residual radioactive material at the property was not cleaned up, were supplemental standards (40 CFR 192 Subpart C) applied?	✓			
3. Was the application of supplemental standards in accordance with the Plan for implementing EPA Standards?	✓			<input checked="" type="checkbox"/> a. Risk injury to workers/public <input type="checkbox"/> b. Environmental harm <input checked="" type="checkbox"/> c. High cost relative to long-term benefits <input type="checkbox"/> d. High cost of cleaning up building relative to benefits <input type="checkbox"/> e. No known remedial action <input type="checkbox"/> f. Radionuclides other than Ra-226 exist
4. Did appropriate state and federal agencies concur in this application of Supplemental Standards? (Note: final NRC concurrence of the Completion Report is obtained following the DOE certification decision.)			✓	<input type="checkbox"/> The application of Supplemental Standards appears in the REA. <input type="checkbox"/> The application of Supplemental Standards does not appear in the REA. Supplemental Standards were applied in the field. State concurrence dated _____ NRC concurrence dated _____

* If no or N/A, then an explanation is required.

STILL WAITING FOR
STATE & NRC CONCURRENCE.

1993 COST EST. TO REMEDIATE
AREAS AROUND THE SHAFTS,
\$91,500⁰⁰

VICINITY PROPERTY CERTIFICATION REVIEW FOR COMPLIANCE WITH RADIOLOGICAL STANDARDS (continued)

CERTIFICATION REQUIREMENT	COMPLIANCE*			COMMENTS (Reference Page in Completion Report)
	Yes	No	N/A	
VI. SITE AUDIT REPORTS				
1. If a site audit was performed at this property, were the results satisfactory?			✓	
2. If the contractor's efforts were evaluated at other properties, were the results satisfactory?			✓	
VII. ADDITIONAL CONSIDERATIONS				
1. Are there any additional comments or considerations.			✓	
VIII. CERTIFICATION				
1. Is this property recommended for certification as meeting the EPA standards for residual radioactive material?	✓			PENDING STATE & NRC CONCURRENCE.

* If no or N/A, then an explanation is required.