

POLICY ISSUE NOTATION VOTE

March 19, 2012

SECY-12-0042

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: COLORADO ALTERNATIVE STANDARDS; IMPLEMENTATION OF
THE ALTERNATIVE STANDARDS PROVISION IN SECTION 274o
OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

PURPOSE:

To request a Commission determination that Colorado's alternative standards for soil cleanup for the Uravan, Colorado uranium mill site meet the requirements of Section 274o of the Atomic Energy Act of 1954, as amended. This paper does not address any new commitments.

BACKGROUND:

In 1983, Congress amended the Atomic Energy Act (AEA) by adding the last paragraph of Section 274o, which requires the Commission to consider the use of alternative standards by an Agreement State with authority for the regulation of 11e.(2) byproduct material. The law allows the Commission to determine such standards are acceptable if, after notice and the opportunity for hearing, the Commission determines that such alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for the public health, safety, and the environment from the radiological and nonradiological hazards associated with such sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by the standards and requirements adopted and enforced by the Commission for the same purpose and any final standards promulgated by the Administrator of the Environmental Protection Agency (EPA) in accordance with section 275 of the AEA (the federal standards).

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In 2003, the Commission approved a process for the review and approval of alternative standards requests similar to the process outlined in 10 CFR Part 2, Subpart H—Rulemaking. The State of Utah submitted the first alternative standards proposal which was for generic alternative standards (See SECY-03-0025 (Agencywide Documents Access and Management System Accession (ADAMS) No. (ML032901045)) and SRM-SECY-03-0025 (ML032901053)). The Commission in 2004 approved the generic alternative standards proposed by Utah (See SECY-04-0128, ML041940197 and SRM-SECY-04-0128, ML042170320). The process for approval of alternative standard proposals allows interested stakeholders an opportunity to participate through the submission of statements, information, opinions, and arguments in the manner stated in the notice. Additionally, as provided in 10 CFR 2.805(b), the Commission can hold informal hearings at which interested stakeholders have the opportunity to provide verbal statements.

When an Agreement State proposes the use of an alternative standard (including a site-specific standard), the Agreement State is responsible for documenting the difference between the proposed alternative standard and the federal standards or requirements. The State's documentation must include a State determination that the proposed alternative standard is equivalent to or more stringent than the federal standards.

Upon submittal of the State's documentation in support of an alternative standard, the staff reviews the documentation to determine if the State has provided sufficient information to make the determination required in Section 274o. The staff documents its review and prepares the draft *Federal Register* notice. The NRC documentation, *Federal Register* notice, and State documentation are sent to the Commission with a preliminary finding that the alternative standard provides a level of protection that is equivalent to or more stringent than that provided by the federal standards. Upon Commission approval, the *Federal Register* notice is published with a minimum 30-day public comment period. The staff then evaluates the comments received and provides a final recommendation to the Commission. The Commission reviews the staff's recommendation and makes the final determination of whether the alternative standard provides a level of protection that is equivalent to or more stringent than the federal standards. The Commission's determination on the alternative standard is published in the *Federal Register* to inform the public of the Commission's determination.

DISCUSSION:

On October 10, 2007, the State of Colorado submitted a proposal for alternative standards for soil cleanup for four areas of the Umetco Minerals Corporation's Uravan mill site in Montrose County, Colorado (ML081150505). The State submitted additional documentation dated March 20, 2009 (ML092820404). Colorado has proposed using alternative soil standards for these areas and provided a justification for the alternative soil standards where radium-226 is in excess of the protection requirements in, Title 6, Code of Colorado Regulations (CCR) 1007-1 Radiation Control, Part 18, Appendix A, Criterion 6 (6 CCR 1007-1, Part 18, Appendix A) (equivalent to the federal regulations in 10 CFR Part 40, Appendix A). The application contains a description of the four areas and information to support the application for alternative soil standards in the four areas. The alternative standards areas are within the site to be transferred to the U.S. Department of Energy (DOE) for long-term surveillance activities.

The staff's review of the Colorado submittal concluded that Colorado provided sufficient information for the alternative standards evaluation. In a memorandum dated August 21, 2011 (ML112010137), the staff advised the Commission of its intention to publish for public comment the proposed Colorado alternative standards for the Uravan, CO uranium mill site. The proposal for the alternative standards was noticed in the *Federal Register* (76 FR 70170, November 10, 2011). The NRC received two comment letters: (1) a letter from Montrose County supporting the proposal (ML11346A586) and (2) a letter from a Montrose County resident questioning the basis for applying alternative standards and raising several questions on the appropriateness of the proposal (ML12033A032). No requests for a hearing on the alternate standards were received. The staff prepared an analysis of these public comments on the proposal (Enclosure 1, ML120330021). The staff modified its assessment by including additional specific information on the basis for the staff's recommendation (Enclosure 2, ML120330018). The staff's recommendation is subject to the Commission's review and final determination.

The current standards are the protection requirements in 6 CCR 1007-1, Part 18, Appendix A, Criterion 6(6) (equivalent to the federal regulations in 10 CFR Part 40, Appendix A). This criterion is commonly referred to as the 5/15 pCi/g (0.185/0.555 Bq/g) soil cleanup requirements. In establishing the soil cleanup requirements EPA evaluated the direct gamma radiation levels and the radon concentration in a structure built on such lands (ML032751396). The level of protection provided by the EPA standards (which NRC and Colorado adopted) was calculated by EPA to be 61 mrem per year (0.61 mSv/year) direct gamma dose and 0.02 Working Levels (WL) for radon progeny in a structure built on contaminated soils. This level of protection was used by the staff as the benchmark for accepting/rejecting the alternative standards proposal.

The State of Colorado identified four areas that were not cleaned up to the soil cleanup requirements, or could not be verified that the soil cleanup requirements were met, due to practical reasons. The licensee proposed and the State agreed to an alternative soil standard of leaving the remaining contamination in place.

The justification for the alternative soil cleanup standards includes two determinations: (1) did the licensee conduct practical remediations, and (2) does the alternative standard provide a level of protection equivalent to or more stringent than the benchmark level of protection?

(1) Did the licensee conduct practical remediations?

The licensee conducted extensive remediation at the Uravan site over a 20-year period. The licensee ceased remediation in the four areas identified for alternative standards based on the risk to workers and/or potential environmental damage if additional remediation were to be conducted. The licensee used the supplemental standards criteria from 40 CFR 192.21 as guidance in developing the rationale for discontinuing additional remediation. The staff agrees that the use of the 40 CFR 192.21 criteria would be reasonable for these areas and additional remediation could adversely affect public health and safety and the environment. The staff's detailed assessment is provided in Enclosure 2.

(2) Does the alternative standard provide a level of protection equivalent to or more stringent than the benchmark level of protection?

The licensee evaluated the impact of no further remediation and leaving the contamination in place through dose assessments. The State of Colorado evaluated the assessments and agreed with the licensee's dose assessments. The dose assessments considered that structures would not be constructed in the alternative standards areas due to the physical limitations (steep slopes or location in the 100-year flood plain). The Uravan disposal site including these four areas will be transferred to DOE for long-term care under the general license in 10 CFR 40.28 under the DOE legacy management program. The DOE site ownership further limits the availability of the site for development or building of structures. The staff reviewed the dose assessment assumptions and agrees that the doses from gamma radiation and radon in structures for the no additional remediation proposal are well below the benchmark levels for the regulatory requirements in 6 CCR 1007-1, Part 18, Appendix A, Criterion 6(6) (equivalent to the federal regulations in 10 CFR Part 40, Appendix A).

The staff concludes that the proposed alternative standards for soil cleanup for the Uravan uranium mill site provide a level of protection that is more stringent than the federal standards implemented by the NRC for the same purposes. The licensee, Umetco Minerals Corporation, proposed alternative standards only after it remediated the four areas to the extent practical. Further remediation of the areas affected by the alternative standards would either put workers at unreasonable risk or cause significant environmental harm greater than the benefits to be achieved by additional remediation. In addition, the areas affected will be under the control of the DOE as part of the long-term care of the Uravan disposal site.

RESOURCES:

The resources allocated for Agreement State oversight are sufficient for the staff to implement the recommendation if supported by the Commission.

COORDINATION:

The Office of the General Counsel reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

RECOMMENDATIONS:

That the Commission:

1. Determine:

That the Colorado proposed alternative standards for soil cleanup at the Uravan site provide a level of protection that is more stringent than the federal standards for 11e.(2) byproduct material.

2. Note:

- a. That the State of Colorado will implement the alternative standards for the Uravan site upon publication of the Commission's final determination.

- b. The Secretary will publish in the *Federal Register* the Commission's final determination on the alternative standards for soil cleanup (Enclosure 3, ML120330023).

/RA Martin Virgilio for/

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. Comment Resolution Document for the Colorado Alternative Soil Standards for the Uravan Uranium Mill Site
2. Staff Analysis of Colorado Alternative Standards for the Uravan, Colorado Uranium Mill Site
3. Draft *Federal Register* notice of the Commission's Determination on Colorado's Proposed Alternative Soil Standards for the Uravan, Colorado Uranium Mill Site

- b. The Secretary will publish in the *Federal Register* the Commission’s final determination on the alternative standards for soil cleanup (Enclosure 3, ML120330023).

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ML120330024/EDATS: FSME-2012-0007

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