

**TECHNICAL EVALUATION REPORT FOR EXXONMOBIL ENVIRONMENTAL SERVICES'
PROPOSED 2014-2017 SURETY ESTIMATES
FOR THE HIGHLAND RECLAMATION PROJECT**

Docket No.: 040-08102 **License No.:** SUA-1139

DATE: June 22, 2017

FACILITY: Highland Uranium Recovery Facility

TECHNICAL REVIEWERS: Dominick Orlando, Reginald Augustus

PROJECT MANAGER: Dominick Orlando

SUMMARY AND CONCLUSIONS

By letter dated April 21, 2017 (ML17124A313), ExxonMobil Environmental Services (ExxonMobil), submitted the 2014, 2015, 2016, and 2017 surety estimates for its Highland Uranium Recovery Facility (Highland Facility) site to the U.S. Nuclear Regulatory Commission (NRC). The NRC staff reviewed the estimates and has determined that the decommissioning and reclamation activities are adequately described and reasonable cost estimates for each activity were provided. Appropriate cost estimates were also provided for contingencies and long-term maintenance and surveillance. The NRC staff determined that ExxonMobil's method of increasing its cost estimate based on the Wyoming Department of Environmental Quality, Land Quality Division (WDEQ) Guideline 12 (Guideline 12), contracted labor rates, and inflation, using the Consumer Price Index (CPI), adequately demonstrates compliance with the requirements of 10 CFR Part 40, Appendix A, Criteria 9 and 10.

BACKGROUND

ExxonMobil is the holder of NRC license no. SUA-1139 for its former conventional surface uranium mine and associated mill in Converse County, WY. The site also included ore storage pads, four mine pits, several waste rock piles, one tailings impoundment and an environmental laboratory. Uranium milling began on the site in 1970. The Highland Facility site ceased active uranium recovery operations in 1984. The tailings disposal pipeline and pump house facilities at the tailings basin were decommissioned by 1985. The uranium mill area, including the ore storage pads and the laboratory, have been reclaimed and the tailings are buried under a radon barrier, eliminating nearly all potential for radiation exposures to workers or members of the general public from these sources. All windblown material has been reclaimed to unrestricted release standards. The potential exposure to byproduct material is limited to the groundwater pathway. However, there is no current use of groundwater. The water in an on-site pit lake has slightly elevated concentrations of Radium-226 + Radium-228, gross alpha, natural uranium, and selenium. All other constituents of concern in the pit lake are below WDEQ Class III standards.

TECHNICAL EVALUATION

ExxonMobil's license was issued under 10 CFR Part 40, Domestic Licensing of Source Material. 10 CFR 40, Appendix A, Criterion 9, "Financial Criteria" and License Condition (LC) 23 of

Enclosure

Materials License SUA-1139 requires ExxonMobil to maintain an NRC-approved financial surety arrangement to cover estimated costs for its sites decommissioning and reclamation activities. It also requires that the cost estimates be calculated on the basis of completion of all activities by a third party and the cost estimate must be updated annually. LC 23 requires that the annual update be submitted 3 months prior to the December 1 anniversary date.

In addition, 10 CFR 40, Appendix A, Criterion 10, requires that a minimum charge of \$250,000 (1978 dollars) must be paid by each mill operator to the general treasury or appropriate State agency, prior to uranium mill license termination, to account for costs associated with long-term surveillance.

The NRC staff reviewed ExxonMobil's annual financial assurance updates using the guidance in NUREG-1620, Appendix, Revision, "Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978," dated June 2003 (NUREG-1620, Rev. 1).

ExxonMobil's 2014, 2015, 2016, and 2017 proposed surety amounts are \$1,999,000, \$1,998,000, \$1,447,000, and \$1,401,000, respectively. The 2017 surety estimates reflect a total decrease of \$598,000 from the previous three year's surety estimates based on reductions in the amount of remaining acreage to complete the long-term surveillance monitoring boundary. Additional changes include an increase to the costs for well sample analyses. In determining whether an adjustment to decrease the surety amount, based on Guideline 12, contracted costs, and CPI would be adequate, the NRC staff considered several factors that could apply in adjusting the cost estimate, as outlined in 10 CFR 40 Appendix A, Criterion 9(f)(4) including:

- Spills, leakage or migration of radioactive material leading to additional contamination;
- Waste inventory increase above previous estimate;
- Facility modifications;
- Any changes to authorized possession limits;
- Actual remediation costs above previous cost estimate; and,
- Any other conditions that affected the costs.

ExxonMobil's Highland Facility remains in a non-operational status with most of the reclamation activities completed. There has been no recorded events of spills or leaks. In addition, there has been no change to the amount of waste inventory, changes to the facility, or changes in its authorized possession limits. Furthermore, there has been no increase to the actual remediation costs of the site nor any other conditions affecting the cost estimate. Therefore, the NRC has determined that a decrease to the cost estimate meets the requirements in 10 CFR 40 Appendix A, Criterion 9.

In addition, the costs in the annual financial assurance update are estimated based upon third party costs to reclaim, remediate, and decommission facilities and lands affected by past project operations. All costs, labor and equipment, and other fees were included. Also, the licensee added 15 percent for contingencies, as well as costs for long-term surveillance fees based on \$250,000 (1978 dollars) as required. Therefore, NRC staff has determined that the cost estimate is based upon third party costs, includes an adequate contingency factor of 15 percent, and accounts for long-term surveillance fees as required by 10 CFR 40, Appendix A, Criterion 9 and 10.

By letter dated March 11, 2002, the NRC staff approved the Standby Trust Agreement (STA) for the site (ML020790328) and on March 4, 2009, NRC staff approved ExxonMobil's updated surety estimate of \$2,000,000.00 (ML083450195), submitted to demonstrate compliance with 10 CFR 40, Appendix A, Criterion 9. Because this previously approved surety amount remains adequate to cover all remaining decommissioning costs, no update to the surety instrument is required at this time. However, the STA agreement requires an update to its Schedule A to reflect the current approved decommissioning cost estimate.

The 2017 cost estimate breakdown includes:

(1) Tailings Basin Groundwater Restoration and Well Plugging:	
• Verification Sample Analyses	\$150,000
• Adjacent Property Lease/Purchase Agreements	\$30,000
• Well Plugging	\$54,000
(2) Tailings Impoundment Area Reclamation:	
• Fencing	\$20,000
• Repairs, Maintenance, Revegetation	\$20,000
(3) Project Management and Miscellaneous:	
• Two years @ \$50k/year	<u>\$100,000</u>
Subtotal	\$374,000
(4) Contingency(15%)	\$56,100
(5) Long-Term Care Fee (\$250,000 in 1978 dollars)	<u>\$971,000</u>
Total Estimate Costs	\$1,401,100

The long-term maintenance and surveillance fee was determined using CPI.

CONCLUSION

The NRC staff has determined that ExxonMobil's annual surety updates for 2014-2017 for its Highland Facility adequately reflects the decommissioning activities, costs, a 15% contingency, long-term surveillance fees and financial assurance mechanism, as required by 10 CFR Part 40, Appendix A, Criterion 9 and 10, and LC 23.