

**TECHNICAL EVALUATION REPORT FOR UNITED NUCLEAR CORPORATION'S
2021 SURETY ESTIMATE FOR THE CHURCH ROCK MILL SITE**

DATE: 09/28/2021

Docket No.: 040-08907

License No.: SUA-1475

FACILITY: United Nuclear Corporation's Church Rock Mill site

TECHNICAL REVIEWERS: James Smith, Kenneth Kline

PROJECT MANAGER: James Smith

SUMMARY AND CONCLUSIONS

By letter dated March 29, 2021 (United Nuclear Corporation [UNC], 2021) (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML21091A097](#)), UNC submitted its annual 2021 financial assurance update for its Church Rock mill site to the U.S. Nuclear Regulatory Commission (NRC). The NRC staff reviewed the submission 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 UNC's method of increasing its surety estimate by applying an inflationary factor, using the Consumer Price Index (CPI), to the NRC approved 2020 re-baseline surety estimate adequately demonstrates compliance with the requirements of Title 10 of the *Code of Federal Regulations* (CFR) Part 40, Appendix A, Criteria 9 and 10.

BACKGROUND

The UNC is the holder of NRC Materials License SUA-1475 (possession only license) for its former Church Rock conventional mill site near Gallup in McKinley County, New Mexico. The mill site included an ore processing mill and a tailings disposal area, which covers approximately 25 and 100 acres, respectively. The UNC has been a licensee of this site since 1977. The Church Rock mill site ceased active uranium recovery operations in 1982 and has been engaging in final site reclamation activities since then.

REGULATORY REQUIREMENTS

The UNC's license was issued under 10 CFR Part 40, "Domestic Licensing of Source Material." Criterion 9 of Appendix A or 10 CFR Part 40, "Financial Criteria" and License Condition (LC) 25 require UNC to maintain an NRC-approved financial surety arrangement to cover estimated costs for its site decommissioning and decontamination activities. Criterion 9 provides that the Commission will review the surety mechanism to assure that sufficient funds would be available for completion of all activities by a third party. License Condition 25 requires that the cost estimate must be updated annually and that the annual update be submitted prior to the March 31 of each year.

In addition, 10 CFR Part 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 of the United States or appropriate State agency prior to uranium mill license termination, to account for costs associated with long-term surveillance.

TECHNICAL EVALUATION

The NRC staff reviewed UNC's annual financial assurance update using the guidance in NUREG-1620, Appendix C, Revision 1, "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).

The UNC's submittal (UNC, 2021) includes a request to amend its license to increase its surety amount for its Church Rock mill site from \$23,421,383 (in 2020) to \$23,649,776 based on a 0.98 percent increase in the Consumer Price Index for all urban consumers (CPI-U) from the end of December 2020 (260.474) through the end of February 2021 (263.014). Staff confirmed the accuracy of the December 2020 and February 2021 CPI-U by consulting the U.S. Bureau of Labor and Statistics reference, entitled, "Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, by month" at <https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202102.pdf>. The staff performed the following calculations to confirm the licensee's inflationary factor is reasonable:

$$263.014 - 260.474 = 2.54$$

$$2.54 / 260.474 = .00975$$

$$.00975 \times 100 = .975145$$

$$1.00975145 \times \$23,421,383 = \$23,649,776$$

In determining whether an adjustment to increase the surety amount based solely on CPI would be adequate, the NRC staff looked at several factors in 10 CFR Part 40 Appendix A, Criterion 9(f)(4) for adjusting the cost estimate as outlined. These factors included:

- Spills, leakage or migration of radioactive material leading to additional contamination;
- Waste inventory increases 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.

The UNC's Church Rock facility remains in a non-operational status with no additional 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 known conditions affecting the cost estimate. Therefore, the NRC has determined that an increase to the cost estimate based solely on CPI meets the requirements in 10 CFR Part 40 Appendix A, Criterion 9.

The UNC submitted its annual financial assurance update on March 29, 2021 (UNC, 2021), which was prior to the March 31 due date. Therefore, NRC staff has determined that the submittal meets the license requirement for a surety update to be submitted prior to the March 31 date specified in LC 25.

The NRC approved UNC's 2020 surety re-baseline cost estimate (ADAMS Accession No. [ML20345A342](#)). The 2020 estimate is based upon third party costs to reclaim, remediate, and decommission facilities and lands affected by past project operations. All unit 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). 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 Part 40, Appendix A, Criterion 9 and 10.

The NRC has noted that Criterion 9 of 10 CFR Part 40, Appendix A requires, in part, that "[t]he amount of surety liability should be adjusted to recognize any increase or decreases resulting from inflation, changes in engineering plans, activities performed, and any other conditions affecting costs."

The cost estimate breakdown includes:

- Procurement	\$22,500
- Site Prep	\$374,363
- Haul Road Construction	\$10,108
- Repository Construction/Prep for Mine Waste	\$605,046
- Mine Waste Transportation	\$1,313,503
- Repository Cover Construction	\$3,493,751
- Mite Site Grading and Seeding	\$72,009
- Stormwater Features	\$4,949,010
- Revegetation	\$179,965
- Monitoring, Testing and Verification Controls	\$3,026,190
- Debris Excavation and Disposal	\$420,235
- Cover Evap Ponds	\$319,396
- Well Decommissioning	\$539,180
- Short-Term Surveillance	\$1,186,024
- Groundwater Monitoring	\$2,819,195
- Surveying	\$673,755
- Engineering	\$2,101,321
- Contingency	\$3,315,833
- Less U.S. EPA Amount	(\$2,000,000)
2020 NRC Approved Surety Amount	\$23,421,383
Inflation Factor .00975	\$228,358
2021 Surety Amount	\$23,649,776

The UNC has previously submitted an NRC approved surety bond and standby trust agreement to demonstrate compliance with 10 CFR Part 40, Appendix A, Criteria 9 and 10. Within 30 days of approval of the 2021 surety amount, UNC should submit an update to its financial assurance instruments to cover the increased surety amount. The 2021 surety amount is \$23,649,776.

ENVIROMENTAL REVIEW

A license amendment to reflect an update in the amount of financial assurance or corrective revisions belongs to a category of actions that the NRC has determined do not individually or cumulatively have a significant effect on the environment. Such actions qualify for a categorical exclusion under 10 CFR Section 51.22(c) and do not require an environmental assessment. Specifically, the NRC staff has determined that the financial assurance (surety) update is categorically excluded from further environmental review under 10 CFR Section 51.22(c)(10)(i).

CONCLUSION

The NRC staff has determined the UNC's annual 2021 surety update for its Church Rock Mill site in the amount of \$23,649,776 is reasonable as it applies an appropriate inflationary factor to the NRC approved UNC 2020 re-baseline surety estimate. Within 30 days of approval of the 2021 surety amount, UNC will provide updated financial instruments to cover the increased surety amount.

PROPOSED LICENSE AMENDMENT

Revise LC 25 to change the required surety amount to read: \$23,649,776.

REFERENCES

10 CFR Part 40. Code of Federal Regulations, Title 10, Energy, Part 40, "Domestic Licensing of Source Material."

UNC, 2021. Letter from L. Hauer, United Nuclear Corporation, to B. Pham, US NRC, Church Rock Financial Surety Requirement-Source Materials License No. SUA-1475, March 29, 2021, ADAMS Accession No. [ML21091A097](#).

UNC, 2019. Letter from R. Blickwedel, United Nuclear Corporation, to B. Pham, US NRC, Church Rock Financial Surety Requirement-Source Materials License No. SUA-1475, March 12, 2019, ADAMS Accession No. [ML19078A089](#).

UNC, 2018. General Electric Company and United Nuclear Corporation. Application for Amendment of License SUA-1475 for UNC Mill Site Near Church Rock, New Mexico, Volumes I and II, September 24, 2018, ADAMS Accession No. [ML18267A235](#).

NRC, 2021. United Nuclear Corporation. Materials License SUA-1475, Amendment No. 55, January 20, 2021, ADAMS Accession No. [ML20345A033](#).

NRC, 2003. 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.