

ACU Environmental Audit Information Needs – Set #2 Technical Items

Environmental Report Review Audit Information Needs ¹

Information Need Prefix Abbreviations

LU	Land Use
VR	Visual Resources
ECO	Ecology
ALT	Alternatives
SE	Socioeconomics & Environmental Justice
CA	Climatology & Air Quality
NO	Noise
WR	Water Resources
RH	Radiological Health
AC	Accidents
WM	Waste Management
TR	Transportation of RadMat
FC	Fuel Cycle
CR	Historic and Cultural Resources
GEO	Geology

Item #	Reviewer(s)	Date Sent to ACU	ER Chapter or Topic	Information Need
CA-1	Ghosh	06/08/2023	Air Quality and Noise	<p>CA-1-a Provide a summary of wind flow data (joint frequency distribution) for the site, if available, or as measured at the nearest recording station.</p> <p>CA-1-b Provide detailed descriptions of the models and assumptions used to determine the atmospheric dispersion parameter (X/Q).</p> <p>CA-1-c Provide normalized concentration (X/Q) at points of maximum potential concentration outside the site boundary, at points of maximum individual exposure, and at points within a reasonable area that could be impacted.</p>
CA-2	Ghosh	06/08/2023	Air Quality and Noise	Provide a description of the “active species” that ACU expects to be in the roof effluent from the reactor off-gas system when it is mixed with the room air and ventilation effluents.
CA-3	Ghosh	06/08/2023	Air Quality and Noise	Confirm whether ACU does not have a site permit and does not require air permits from Federal, State, or county governments (e.g., TCEQ minor permit)
CA-4	Ghosh	06/08/2023	Air Quality and Noise	CA-4-a Provide a table and analyses with emission estimates of criteria pollutants (e.g., PM, CO, NOx, SO2) for NAAQs and hazardous air pollutants (e.g., HF, HX, HFC, PFC, NF3, and SF6) from construction, operations, and decommissioning, including fugitive dust activities for attainment areas.

¹ Additional information needs may be developed as remaining sections of the Environmental Assessment are developed or if responses to existing items require further clarification.

ACU Environmental Audit Information Needs – Set #2 Technical Items

<u>Item #</u>	<u>Reviewer(s)</u>	<u>Date Sent to ACU</u>	<u>ER Chapter or Topic</u>	<u>Information Need</u>
				<p>CA-4-b Provide a description of the SERC monitoring system of non-radiological gaseous effluents and the effluents that ACU will monitor.</p> <p>CA-4-c Provide a description of mitigation measures that reduce or minimize adverse impacts of non-radiological species (e.g. NOx, SO2, VOC, PM, HF, HX).</p>
CA-5	Ghosh	06/08/2023	Air Quality and Noise	Provide sources of air emissions during operation and construction (types of equipment and estimated running hours, i.e., boilers, emergency/standby diesel or propane-fired generator, diesel-powered delivery trucks or other heavy construction equipment).
CA-6	Ghosh	06/08/2023	Air Quality and Noise	<p>CA-6-a Provide estimated GHG emissions, both direct and indirect, for the life of the project (include needed phases of construction, operation, transportation of fuel and waste, fuel cycle, and decommissioning). (See COL/ESP-ISG-026, “Interim Staff Guidance on Environmental Issues Associated with New Reactors” ML14092A402.)</p> <p>CA-6-b Per chapter 19.3.2 of NUREG-1537 (ML12156A069), provide a description or policies to reduce greenhouse gas emissions.</p>
NO-1	Ghosh	06/08/2023	Air Quality and Noise	Clarify whether there are major noise-generating facilities in the vicinity of the SERC per chapter 19.3.2 of NUREG-1537 (ML12156A069).
NO-2	Ghosh	06/08/2023	Air Quality and Noise	Provide information on background noise levels at receptor locations.
NO-3	Ghosh	06/08/2023	Air Quality and Noise	Provide estimates and an analysis of an upper bound (expressed as A-weighted decibel level, dBA) for the loudest noise expected during the construction of the reactor and the loudest noise expected during operation, including all models, assumptions, and input data.
NO-4	Ghosh	06/08/2023	Air Quality and Noise	Provide information about what kind of equipment will be operated outside of SERC (e.g., emergency heaters, fans, exhaust stacks) that can generate potential loud noises.
NO-5	Ghosh	06/08/2023	Air Quality and Noise	Provide a description or analysis of the potential noise levels that could be experienced by persons inside the SERC during operations and any mitigative measure that will be employed, particularly with analysis that indicates that the SERC walls will prevent any operational noise being heard from outside the building. Address both the workspace used to operate the reactor and other areas of the SERC, such as labs and offices.
SE-1	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Confirm the current workforce estimate (dozen to up to 100 for construction while 10-20 additional for operation, discussed in section 19.4.8.1 of the applicant’s environmental report) is most up-to-date.
SE-2	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Provide residence of the workforce for the proposed project by county if applicable.
SE-3	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Provide tax payment information for the MSRR project. There is a very brief discussion in section 19.4.8.1.5 of the applicant’s environmental report with no estimated numbers.

ACU Environmental Audit Information Needs – Set #2 Technical Items

Item #	Reviewer(s)	Date Sent to ACU	ER Chapter or Topic	Information Need
SE-4	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Confirm whether there be any existing community benefits payments or payment-in-lieu-of-taxes made for the MSRR project? The info can provide context for the impacts of future community benefit payments.
SE-5	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Confirm the current transportation information used to access the proposed project site is most up-to-date: roads, highways, railways, pipelines, airfields, etc., which is discussed in section 2.2 of the applicant's environmental report. See chapter 19.3.7 of NUREG-1537 (ML12156A069).
SE-6	Niemeyer, Anderson, Zeng	06/08/2023	Socioeconomics and Environmental Justice	Provide average annual daily traffic volume and road capacity for three major highways and five major roads with access to the proposed project site, if available. Only the road volume for I20 is now reported in section 2.2.1.1 of the applicant's environmental report. See chapter 19.3.7 of NUREG-1537 (ML12156A069).
CR-1	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide a clarification on the project location per 10 CFR Part 51. There are inconsistencies in the PSAR. Coordinates for project location are described in Chapter 2 Lat: 32°27'25.00"N Long: 99°42'43.00"W Coordinates for project location are described in Chapter 19 Lat: 32°27'53.00"N Long: 99°42'26.00"W
CR-2	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide NEPA/NHPA documentation for funds issued from DOE-NE Research Reactor Infrastructure (RRI) program, as required per 36 CFR Part 800.
CR-3	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide information on the CRM firm/archaeologist contracted to do the historic/cultural compliance section. There is no information on who the SOI-qualified archaeologist is, 36 CFR Part 800.
CR-4	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide a description of the area of potential effect (APE) as recommended by the applicant. There is no mention of direct or indirect APE in the PSAR, per 36 CFR Part 800 and 10 CFR Part 51.
CR-5	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide information on whether the applicant is aware of previous surveys done in the APE- 15.17-acre parcel. Include information on field survey methodology and all steps that were taken to identify historic and cultural resources within the APE, 36 CFR Part 800 and 10 CFR Part 51.
CR-6	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide correspondence between the applicant and the Texas Historical Commission (TX SHPO) and other consulting parties, including Tribes. See 36 CFR Part 800, NRC RG4.2, Section 2.6.
CR-7	Renaud, O'Neil	06/08/2023	Historic and Cultural Resources	Provide citations or references that were used to draft the historic and cultural resources sections of the PSAR. There are no citations or references for historic and cultural resources, 10 CFR Part 51.
GEO-1	Meyer	06/08/2023	Geology	Provide information on the potential increase in the occurrence of earthquakes at the site from induced seismicity related to oil and gas production in the region.

ACU Environmental Audit Information Needs – Set #2 Technical Items

<u>Item #</u>	<u>Reviewer(s)</u>	<u>Date Sent to ACU</u>	<u>ER Chapter or Topic</u>	<u>Information Need</u>
WM-5	Leigh, McClendon	06/08/2023	Non-Radiological Waste Management	<p>Section 19.4.9 of the ISG addition to NUREG-1537 (ML12156A069) describes what non-radiological waste management information should be included in the applicant’s ER. While the applicant provided brief details regarding the description of sources, types, and disposition of solid, hazardous, radioactive, and mixed wastes expected from the proposed action, it appears that the applicant did not identify any non-radiological waste streams directly linked to specific MSRR operations, radiochemistry lab operations, or maintenance activities. Sections 19.4.9.1.3 and 19.4.10.2 only appear to identify general descriptions.</p> <p>WM-5-a Clarify what non-radiological waste streams are expected as a result of specific MSRR operations and maintenance activities, including the specific items listed below.</p> <p>Section 19.4.9.1.1 of the applicant’s ER discusses waste associated with the purification of reactor coolant salts.</p> <p>WM-5-b Define the process that is associated with “purification of reactor coolant salts,” and identify the waste(s) associated with the purification of reactor coolant salts.</p> <p>WM-5-c Provide a definition of “universal indicator.”</p> <p>WM-5-d Provide a subject matter expert to discuss if the coolant salt waste expected to be non-radiological.</p> <p>WM-5-e Provide the expected quantities of all MSRR-related non-radiological wastes.</p> <p>WM-5-f Provide current quantities of non-radiological waste generated at ACU, as a whole, to better determine the impact of MSRR-related wastes.</p>
WM-6	Leigh, McClendon	06/08/2023	Non-Radiological Waste Management	<p>Section 19.4.9.1 of the applicant’s ER states that “Wastes, discharges, and emissions are managed in accordance with applicable Federal, state, and local laws and regulations.”</p> <p>Section 19.2.5.2 of the applicant’s ER describes the temporary collection and storage of non-radiological solid wastes.</p> <p>WM-6-a Identify the location for ACU to temporarily collect non-radiological wastes.</p> <p>WM-6-b Describe ACU’s process to ensure collected wastes are non-radiological.</p>

ACU Environmental Audit Information Needs – Set #2 Technical Items

<u>Item #</u>	<u>Reviewer(s)</u>	<u>Date Sent to ACU</u>	<u>ER Chapter or Topic</u>	<u>Information Need</u>
WM-7	Leigh, McClendon	06/08/2023	Non-Radiological Waste Management	<p>Section 19.4.9.1 of the applicant’s ER states that “Wastes, discharges, and emissions are managed in accordance with applicable Federal, state, and local laws and regulations.”</p> <p>In Section 19.4.10.2 of the applicant’s ER, the applicant states that no significant sources of hazardous waste are expected during facility operations. This statement implies that <i>insignificant</i> sources of hazardous waste <i>will</i> be generated during operations.</p> <p>WM-7-a Identify what hazardous wastes are anticipated and their associated quantities.</p> <p>WM-7-b Provide a description of how such hazardous wastes will be managed cradle-to-grave.</p> <p>WM-7-c Clarify whether no hazardous wastes are anticipated.</p>
WM-8	Leigh, McClendon	06/08/2023	Non-Radiological Waste Management	Provide a subject matter expert to discuss and identify the local solid waste haulers and landfills ACU plans to use for collecting and disposing of non-radiological wastes.
WM-9	Palmrose (Leigh, McClendon)	06/08/2023	Waste Management	Provide a description of the metal waste (Riley et al. 2019) associated with the secondary cooling loop.
	Last row (blank)			

References

Riley, B.J., J. McFarlane, G.D. DelCul, J.D. Vienna, C.I. Contescu, and C.W. Forsberg. 2019. *Molten Salt Reactor Waste and Effluent Management Strategies: A Review*. Elsevier Nuclear Engineering and Design 345: 94-109, Elsevier, Amsterdam, Netherlands. Available at: <https://doi.org/10.1016/j.nucengdes.2019.02.002>.