Crystal River Unit 3 (CR3) Nuclear Generating Plant Partial Site Release (PSR) License Amendment Request (LAR) Audit Topics

PRIORITY 1

1. **Groundwater Quality**
   Describe the conceptual site model for saline/freshwater distribution and clarify why the berm area adjacent to the canals is representative of groundwater in the partial site release areas.

   i. Describe the conceptual site model for brackish groundwater and how it relates to water quality in the areas of the partial site release. Based on results provided in H&A, 2024 (Sodium and Chloride Groundwater Data from Wells Within NRC Licensed Area Accelerated Decommissioning Partners, Crystal River Unit 3), groundwater in much of the Phase II PSR areas may be considered freshwater that is appropriate for many uses.

   ii. Clarify how the boundary and initial conditions in the brackish water model documented in Enclosure 8 of the Phase II PSR represent conditions across the proposed partial site release areas (NIA-01 through NIA-06, R16Y, CASA, SEAL). Results from the brackish water model are implicit in the exclusion of dose results for the first 30 years as part of the demonstration that future dose related to migration along groundwater pathways is less than the 10 percent insignificant contributor metric. More directly, explain why pumping anywhere in the areas of the partial site release would lead to drawing brackish water from the canals into the pumping well. Groundwater in parts of NIA-04, NIA-05, NIA-06, and SEAL near the canals may be brackish or wells in these locations may withdraw brackish water from the canals during pumping. The latter may be appropriately represented by the model in Enclosure 16, Attachment 2 of the LTP Revision 2. Wells located in the proposed release areas that are more distal from the canals may be screened in freshwater. Pumping wells at the more distant locations (from the canals) may only draw fresh water and may be too distal from the canals to draw canal water into the pumping wells. This situation would not appear to be relevant to the licensee's model in Enclosure 16 Attachment 2 of LTP Revision 2.

2. **Groundwater Dose**
   Reconcile the groundwater results in Table 2-26 of LTP Rev 2 from the proposed partial site release areas (or near the proposed boundary) with the designation of non-impacted for the partial site release areas (particularly the CASA). Depending on that reconciliation and considering potential approaches for demonstrating no impacts, a dose may need to be carried forth in the LTP.

   i. Table 2-26 indicated positive detections were found in the proposed release areas, though the values may unreliable (if below MDC). These include Sr-90 (Well CR3-4 near the boundary with and in the groundwater flow towards NIA-06 boundary) and Eu-152 and C-14 (Wells TWI-3 and TWI-2R in the CASA) as reported in Table 2-26. Staff notes that these results are near the concentration value associated with the critical level (Lc) but no MDC was provided for context. Options for the licensee to address results in Table 2-26 of LTP Revision 2 include: (i) if the licensee considers these three results to be statistical anomalies, then more than one sampling event may be necessary; or (ii) if the licensee considers these results as detections of plant-related radioactivity, then a dose estimate for existing groundwater contamination should be provided in the Phase II PSR.

ii. Confirm that Wells 4, 5, and 6D in Table 2-26 refer to the "CR3" series of wells, and not to the "MW" series of wells.

PRIORITY 2

3. Indistinguishable from Background

MARSSIM and NUREG-1505, Chapter 13 outline the detailed approach for use of demonstrating indistinguishability from background, which may be used to meet the requirements of 10 CFR 50.83(a)(3). There are four fundamental steps: the Kruskal-Wallis test, establishing a concentration that is indistinguishable from background, the Wilcoxon Rank Sum (WRS) test, and the Quantile test. The Phase I PSR established the background concentration that was applied in the Phase II PSR. According to Attachment 1, the survey met the data quality objectives if the Cs-137 concentration levels were less than the background reference area (BRA) concentration of 0.132 pCi/g and there were no other plant derived radionuclides above the minimum detectable concentration.

i. MARSSIM, Section 4.5, recommends background reference areas (BRA) have similar physical, chemical, geological, radiological, and biological characteristics as the survey units being evaluated. Four background reference areas were selected to capture the physical and chemical variability of the site to support the Phase I PSR release. RA-01 and RA-02 feature beachy areas, creeks, and tidal flats. RA-03 and RA-04 feature wetlands, woodlands, and unpaved access roads. Explain how the background reference area physical and geological characteristics are representative of the survey units identified in the Phase II PSR.

ii. BRA data was provided in "Partial Site Release of the Crystal River Energy Complex Radiological Survey Final Report," Table 4-3, "Summary of Gamma Spectroscopy Results for Samples Comprising the Statistical Sample Population – Background Assessment." Minimum detectable concentration (MDC) values were reported for sample results less than the MDC for Cs-137 and Co-60. The results, including those reported as the MDC, were used to perform statistical tests and determine the Cs-137 background value used as a comparison point for the Phase II PSR. Use of the minimum detectable activity (MDA) rather than actual concentrations, biased the background concentration high in the non-conservative direction. Propose an approach to resolve the bias in the BRA concentration used as the basis for determining indistinguishable from background.

iii. The existing survey unit data (NIA, CASA, R16Y and SEAL) reported the actual results for all radionuclides whether above or below the MDA. While this is the appropriate approach to reporting data, it is inconsistent with the reporting and analysis of data for the BRAs. Since the data sets are not equivalent, a direct comparison of the data is not appropriate. Propose an approach to resolve the inconsistencies between the BRA and survey unit data sets.

iv. The BRA concentrations were based on judgmental rather than random sampling, which is inconsistent with the use of non-parametric statistics (e.g., indistinguishability from background). Justify the use of judgmental rather than random samples.

v. The Phase I PSR did not include a Kruskal-Wallis to evaluate the variability between the reference areas. In addition, there was no mention of the WRS and Quantile test in the Phase II PSR. Justify excluding these tests from the indistinguishable from background analysis.

4. CASA

10 CFR 20.1501 requires that licensees conduct surveys of areas to evaluate the concentrations or quantities of residual radioactivity. The coal ash storage area (CASA), a Class 3 area, contains approximately 268,845 m^2 or 66.43 acres of coal ash from Unit 4 and 5. Dredged sediment from the CR3 East and West Settling Ponds was deposited somewhere in the CASA, however, the location within the pile is unknown. According to Attachment 4 of the PSR, the CASA is an active work site where material is removed or added.

i. Provide any historical information on the volume of sediment and the location where the sediment was deposited within the CASA.

ii. On September 2, 2009, the State of Florida Department of Health Bureau of Radiation Control (DOH) collected and analyzed sediment from the Settling Ponds, which is summarized in Attachment A , "WOCZ Settling Pond Position Paper." Eight samples were collected along the banks of each pond. However, there were no sediment samples collected in the center of the ponds. The maximum concentrations for Cs-137 and Co-60 were 0.299 pCi/g and 0.027 pCi/g, respectively. The Cs-137 was approximately twice the background concentration of 0.132 pCi/g. Explain how the September 2009 samples on the banks of the East and West Settling Ponds are representative of the residual radioactivity concentration throughout the ponds. On December 13, 2011, four samples were collected with a maximum concentration of 0.02716 pCi/g Cs-137. No additional information on this sampling campaign was provided. Describe the sampling locations and method for the four December 2011 samples collected from the East and West Settling Ponds.

iii. The historical site assessment recommended additional surveys be performed below the ash pile to determine if residual radioactivity was present; however, this could not be performed without destroying the geosynthetic environmental barrier. To evaluate potential subsurface contamination, Attachment 4, Section 4.2 of the PSR stated that subsurface composite samples were collected for depths 0-3 feet (ft), 3-6 ft, and 6-9 ft at each of fifteen locations. While there was a brief description of surface sampling, no specific information about the method for collecting subsurface sampling other than compositing discussed. Specify the depth of the coal ash pile to the geosynthetic environmental barrier. Describe the sample collection method for subsurface sampling and justify the selection of a maximum sampling depth of 9 ft.

iv. For the CASA, in the absence of scanning surveys, the licensee was dependent on sampling for identifying areas of elevated activity or anomalies, which consisted of fifteen survey locations where surface samples were collected. According to Attachment 4 the coal ash in this area contained naturally occurring radioactive material (NORM) (i.e., typical background dose rate of 50-60 μR/hour), which made scanning surveys impractical for the survey unit. An integrated survey design combines scanning surveys with direct measurements and sampling, with the level of effort commensurate with the potential for residual radioactivity. MARSSIM recommends that judgmental scans be conducted in Class 3 survey units with a focus on areas with the highest potential for residual radioactivity. To address the absence of scanning and the uncertainty of the location of the sediment deposition within the CASA, additional random surface and subsurface sampling to the depth of the coal ash pile would serve as an acceptable option in lieu of scanning. However, the licensee may offer other alternatives.

PRIORITY 3

5. Isolation and Controls

Provide isolation and control plans for the proposed site boundary and evaluations of all migration pathways from the remaining onsite areas to the proposed partial site release areas. Isolation and controls are established to prevent the spread of contamination from areas of the site under active decommissioning to those previously released, including both areas within the proposed release of Phase II PSR and between onsite and offsite locations considering the proposed, new boundary. Contamination of clean areas from residual radioactivity in impacted areas can occur resulting from human, equipment, and environmental transport. NUREG-1757, Volume 2, G.3.5 describes the need for measurements to be taken to avoid recontamination of cleaned survey units. Regulatory Guide 1.179, committed to in the PSR, also recommends final status survey plans describe access control procedures to avoid recontamination of clean areas. In addition, NUREG-1757 Volume 2 Appendix K guidance suggests that an assessment be provided for all radionuclide migration pathways from onsite to the proposed partial site release areas, including the groundwater system.

i. The final status survey for R16Y occurred in October 2023, and for CASA, and SEAL in November 2024. The Partial Site Release (PSR) lacks a description of the isolation and controls implemented post-final status survey (FSS). Describe the isolation and controls implemented to prevent recontamination of survey units following the final status surveys.

ii. There is no mention of precautions or limitations on transportation of materials from the radiologically control areas through the PSR survey units following the approval of the PSR. Describe the controls in place to prevent the recontamination of released survey units during transport of radioactive materials across the site.

iii. Provide a discussion of how the environmental monitoring program and offsite dose calculation manual were evaluated in the conclusion that no revision was needed for potential offsite effluents at the proposed site boundary when considering the groundwater pathway. The licensee stated in the PSR that the monitoring program did not need to be modified for this partial site release and pointed to existing TLDs located at the proposed site boundary. However, no discussion was provided for offsite groundwater migration pathways, particularly to the south of the site. Staff notes that groundwater contours provided in LTP Revision 2 indicate groundwater flow follows a path from onsite southward to NIA-06. In addition, no discussion was provided of the potential for groundwater pathways to other partial site release areas, such as from the discharge canal to NIA-04 and the southeast corner of NIA-05.

6. Classification/Reclassification

MARSSIM, Section 4.4, "Classify Areas by Contamination Potential," provides guidance on the classification of survey units.

i. Examples of Class 3 survey areas include buffer zones around Class 1 and Class 2 areas. The southeast corner of NIA-04 and the southwest corner of NIA-05 were bounded by DISC-02 through DISC-10, which were designated Class 1 and Class 2 survey units in the LTP, Rev. 2. The PSR does not mention boundary conditions or controls in place to prevent spread of contamination to NIA-04 and NIA-05 from Class 1 and Class 2 areas during remediation, or decommissioning activities. Justify the classification for the portions of NIA-04, and NIA-05 adjacent to Class 1 and Class 2 areas as non-impacted.

ii. Attachment 3 reclassified R16Y as non-impacted based on information in the HSA and "further characterization that was completed during the CHAR-01 characterization survey and the FSS." According to the HSA, the area was used for radioactive material container shipping storage during Refuel Outage #16 and was designated as MARSSIM Class 3. Non-impacted areas are those "with no reasonable potential for residual radioactivity in excess of natural background or fallout levels" (10 CFR 50.2). Clarify the rationale for reclassification of R16Y.

7. Number of Samples

MARSSIM, Section 5.5.2, "Survey Design" describes the method for determining the number of samples taken in a survey unit. The PSR did not include a discussion of the determination of relative shift, or the input data (i.e., UBGR, LBGR, standard deviation) used for the relative shift calculation. Additionally, the PSR stated that "the Type II error rate and subsequent power achieved were dependent on the number of samples collected and the concentration variability in the sample set." Provide the relative shift and Type II error calculations for each survey unit to enable NRC staff to verify the appropriate number of samples were collected during the FSS. Identify data used to determine the standard deviation.

8. **Scanning and Biased Sampling**
MARSSIM does not specify a minimum scan coverage requirement for Class 3 survey units; instead, the guidance states that judgmental scans should be performed in areas that are most likely to indicate potential radiological contamination. The purpose of scanning during FSS is to identify locations within the survey unit that exceed the investigation levels. Clarification is needed on background determination, scanning survey results, and minimum detectable count rates (MDCRs) to provide reasonable assurance that areas of elevated activity were captured, and survey units met the indistinguishable from background criteria.

   i. Information in the PSR included the average background for the R16Y and SEAL, and the collective background for all non-impacted areas. However, the method used to determine the background was not included. Describe the approach for establishing the background levels.

   ii. NUREG-1757, Volume 2 recommends that the final status survey report (FSSR) include survey results from survey units to support the review of the overall release survey. The R16Y and SEAL FSSRs did not include scanning survey results (e.g., scan area designation, minimum and maximum scan reading, action level, whether investigative samples or scan alarms occurred). Provide a summary of the scan survey results for R16Y and SEAL survey units.

   iii. The alarm set point and investigation level were set at the observed background plus the MDCR for the areas being scanned. For areas exceeding these values, an investigation was conducted to bound the elevated area, and additional samples were collected where elevated measurements were verified. Although the background was provided in the PSR, the MDCR and the input information to derive the MDCR was not included. Identify the variables other than background assumed in the MDCR calculation.

   iv. The PSR described the investigative process as occurring following any alarms with investigative samples taken when elevated measurements were verified. Judgmental sampling was conducted in low lying areas and other areas where residual radioactivity may concentrate. In addition, the judgmental sampling occurred during scanning where measurements exhibited elevated radiation levels distinguishable from background. Clarify the difference between investigative and judgmental samples.

PRIORITY 4

9. **Scan Speed/Distance**

The PSR does not specify a surface to detector distance or a scan speed for the R16Y and NIA survey units. For the SEAL survey unit, the scan speed was listed as 50 cm or less per second with a probe distance of 7.5 cm (3") from the surface with the detector moved in a serpentine pattern. MARSSIM, 6.4.2.1, "Scanning for Photon Emitting Radionuclides," discusses the common practices used for gamma scans. The distance of the detector from the surface and the scan speed can impact detector sensitivity. Provide the surface to detector distance and the scan speed used for the R16Y and non-impacted survey units.

10. Reporting of Analytical Results

Confirm consistent usage of terms used to report analytical results across Attachments 2-6 and 10-12, the AREORs and relevant portions of the LTP submittal, including clarifications of (i) onsite or GEL results, (ii) *a priori* or *a posteriori*, and (iii) equations as appropriate. Staff requested clarification on several terms for analytical results are used throughout the PSR submittal including lower limit of detection (LLD), minimum detectable activity (MDA), minimum detectable concentration (MDC), method detection limit (MDL) and critical level (Lc) during a clarification call on March 20, 2025. In a response dated March 21, 2025, CR3 explained the definitions of the terms LLD, MDA, MDC, MDL and Lc. They stated that the use of detection terms in the PSR reflect the terms used on the onsite and offsite analytical reports. The licensee indicated that the terms LLD, MDA, MDC, and MDL were used interchangeable per the guidance in MARLAP. In a follow up response dated March 31, 2025, CR3 specified the equations used to calculate the LLD, MDA, MDC, MDL, and Lc and provided the reference for these equations. CR3 stated that the use of these terms was consistent with guidance in NUREG-1507, MARSSIM, MARLAP, and NUREG-1301. Staff continues to need clarification on the specific use of these terms in the PSR.

i. In Attachment 3, concerning the R16Y survey unit, soil samples were isotopically analyzed to environmental LLDs, which are consistent with those obtained during a baseline survey conducted in June 2009 (pg. 3 of 256). Attachment 5, concerning the SEAL survey unit, again indicates that soil samples were isotopically analyzed to environmental LLDs and did not identify any plant derived activity. In addition, soil samples taken as a part of the release survey did not detect any plant-derived radionuclides when counted to environmental LLDs (pg. 3 of 233). The "WOCZ Setting Pond Dredge Paper" also mentioned using the term LLD in the context of tritium concentration in water and soil samples.

   The "2022 Annual Radioactive Effluent Release Report" used the LLD to define detectable concentration for the radioactive liquid waste sampling and analysis program. According to the ODCM the LLDs are *a priori*, not *a posteriori* values.

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

where S_b was the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (counts per minute), E was the counting efficiency (counts per disintegration), V was the sample size (in units of mass or volume), 2.22×10^6 was the number of disintegrations per minute per microcurie, Y was the fractional radiochemical yield (when applicable), λ was the radioactive decay constant for the particular radionuclide, and Δt was the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples.) This equation is consistent with the definition of MDC from MARLAP. Clarify whether the LLDs for both water and soil are calculated using the formula from the ODCM provided above.

ii. MARLAP recommends for detection determinations, that the decision should be made by comparing the measured value to its critical value as opposed to the minimum detectable value. Therefore, the results between the a *posteriori* L_C and the LLD, as defined in the ARERR, represent positive detections. To avoid underestimating dose and addressing the unreliability of results in this range, analytical results between the Lc and LLD (if defined as MDC) should be set the LLD (or MDC) for purposes of determining dose rather than setting the results that are less than LLD (or MDC) to zero. In instances where results are reported as “less than” the LLD value, and those results are used to make a statement about dose, provide the actual results and associated estimate of dose.

iii. CR3 selected three wells surrounding the protected area and three wells near the CASA for groundwater sampling of all ROCs including HTDs during a campaign in December 2023. Table 2-26 of the LTP, Revision 2 summarized the sample results and their respective critical levels (Lc). Staff interpret the Lc in this table to be *a posteriori*. The March 31 response related the Lc to the LLD indicating the Lc is the lower bound of the 95% detection interval defined for the LLD. Clarify whether the Lc in Table 2-26 was calculated using the Stapleton Approximation (Sc) for alpha emitting radionuclides (Equation 20.54 of MARLAP) and the Currie method for gamma spectroscopy (Equation 20.48 of MARLAP) as discussed in the March 31 response. Clarify the method used to calculate the Lc for beta emitters.

iv. Table 3-2 of Attachments 2, 3, 4, and 5 list the ROCs and off-site laboratory GEL average MDLs. These appear to be *a priori* detection capabilities for GEL laboratory methods, which would be consistent with the MARLAP suggestion that MDL is defined in Environmental Protection Agency regulations as a method capability for hazardous contaminants (40 CFR Part 136 Appendix B). Table 1-1 of Attachment 11 also lists GEL laboratory MDLs. Clarify whether this is an *a priori* method detection limit. Provide an example within the PSR GEL laboratory report where MDL is equated to MDA or MDC.

v. As previously clarified, the typical environmental minimum detectable concentrations listed in Table 3-3 of Attachments 2, 3, 4, and 5 for soil samples were *a priori* sensitivities for the onsite gamma spectroscopy laboratory. Laboratory reports for onsite analyses provided a posteriori MDAs for each characterization and FSS sample listed in the results summary tables (e.g., Attachment 2, Tables 6-2, 6-4, 6-6, 6-8, 6-10, and 6-12; Attachment 3, Tables 6-2 and 6-4). These same tables also identified MDAs for GEL Laboratory results, which were taken from the MDCs (not MDAs) reported on the GEL laboratory reports. Furthermore, statements such as "no plant-derived radioisotopes were detected above the MDC" occur throughout Attachments 2, 3, 4, 5, and 10, which indicates a comparison to an *a posteriori* MDC. Based on the 3/31/25 response, the MDC equates to the MDA multiplied by the appropriate conversion factor to obtain a concentration. Staff understand this statement to mean the MDA represents results in terms of activity (e.g., pCi, uCi) versus MDC in terms of activity/unit (e.g., pCi/g, µCi/g). Clarify whether the MDC data from the GEL laboratory reports were listed in the sample results tables as the MDA.

vi. The sample count time can impact the MDAs for radionuclide concentrations in individual samples. Confirm the count time used for Phase I PSR reference area samples and Phase II PSR survey unit samples were identical.

11. Data Assessment

MARSSIM, Section 9.3, "Data Assessment" recommends that data validation and verification be conducted to ensure the quality of the data and to ensure the results of the data collection activities meet the objectives of the survey.

i. The staff was unable to reproduce the mean, median, and standard deviations found in Table 6-9, "Basic Statistical Quantities for NIA-05." This information is important support data to demonstrate the survey unit is indistinguishable from background. Demonstrate to staff how the statistical quantities for NIA-05 were determined.

ii. The statistical evaluations for survey units R16Y, SEAL, NIA-03, NIA-04, and NIA-05 included biased and investigative sample results in the statistical analysis. MARSSIM indicates that judgmental samples are not to be included in the survey unit data statistical evaluation as their use violates the assumption of randomly selected, independent measurements. Provide an updated statistical analysis excluding biased or investigative samples.

iii. The Executive Summary (ES) for Attachment 2 and Attachment 11 of the PSR included a summary of data from the non-impacted areas listing the analytical results by survey unit that exceeded the MDA. There are inconsistencies between the two ESs for NIA-01, NIA-02, NIA-03, and NIA-06 relating to the number of samples above MDA and the sample results in some cases. Explain the discrepancies in the ES sample results between Attachment 2 and Attachment 11 of the PSR, identifying any additional data not included in Attachments 2 that are not in Attachment 11 and vice versa.

12. Miscellaneous/Errors

i. MARSSIM, Section 3.0, "Historical Site Assessment" recommends the HSA delineate between impacted and non-impacted areas. Attachment 1 stated, "The HSA identified areas outside of the Protected Area as non-impacted because they were not specifically identified in the HSA." The Protected Area fence was defined in Figure 9, "Crystal River Unit 3 Preliminary Classifications of Non-Radiological Impacts in the Vicinity of Storage Tanks and Transformers" of Attachment 6. There are several impacted survey units, including the CASA, SEAL, and R16Y outside the Protected Area fence. Explain the conclusion that areas outside the Protected Area are non-impacted.

ii. Attachment A, "WOCZ Settling Pond Dredge Position Paper," in Attachment 10 of the PSR describes the process for determining a bounding external dose from exposure to Settling Pond sediment. The final paragraph of the white paper stated the highest concentrations in the sediment for Cs-137 and Co-60 were 2.99E-1 µCi/g and 2.7E-2 µCi/g, respectively, whereas the data table (page 4 of 7) listed the values as 299 pCi/kg for Cs-137 and 27 pCi/kg for Co-60. There is an inconsistency in radionuclide concentrations between the data table and the final paragraph of Attachment A. Resolve the error.

The Attachment A dose calculation was based on MARSSIM (pg. 6-45), which indicated a Cs-137 soil concentration of 5 pCi/g was equated to 1.307 µR/hr. Rather than using 5 pCi/g, the dose calculation assumed 5,000 pCi/g, which was inconsistent with MARSSIM. While the dose of 0.15 mrem appears to be correct, the errors lead to a lack of confidence in other calculations. Correct the error.

iii. Attachment A, Table 1 of Attachment 4: Characterization survey sample locations are identical to the first nine FSS coordinates. In addition, Table 1 coordinates are inconsistent with Table B-2, "Coal Ash Storage Area (CASA) Sample Locations" in Attachment 10 of the PSR. Reconcile the Attachment 4 and 10 characterization survey sample locations for the CASA.

iv. Table 4 in Attachment 1 of PSR: Averages are incorrect for 11 of 13 radionuclides. It is not simply due to how negative values are treated.
   - There may not be much consequence to these errors, but the errors lead to lack of confidence in other table summaries.

13. Document Requests

i. Section 6.3.1, "Non-Impacted Areas" of the HSA states there are many buildings, structures, and areas located within the site footprint outside the Protected Area that are not likely to have been impacted by site operations. A meeting conducted with licensee staff discussed the approach to dispositioning these buildings, structures, and areas. The meeting was documented in "HSA Licensed Footprint Meeting Minutes (25Feb2016).pdf." Provide a copy of this document for review.

ii. According to Attachments 2, 3, 4, and 5 of the PSR, the QA/QC checks and controls, calibrations, and training were conducted in accordance with the "Quality Assurance Project Plan," NS-FSS-19. This document also serves as an input to the third step of the DQO process. Provide a copy of this document for review.

iii. "Crystal River Unit 3 Radiological Nuclides of Concern for DCGL Development" (Appendix A to Chapter 6 of the LTP Rev. 2)

iv. Table 5-6, "Other Building Substructures DCGLs, ROCs, Normalized Fractions, and TEDE Evaluation," of the LTP Rev. 2, or the latest radionuclide fractions for open land areas.

v. Results of December 2023 groundwater sampling event for all 13 radionuclides in the initial suite presented in Table 2-26 in LTP Revision 2

vi. GHS (2017) CR3 Groundwater Flow Study Summary Report; provided in Enclosure 15 to LTP Rev 2, also provided in Enclosure 22 to LTP Revision 1

vii. Haley & Aldrich (2024) H&A, 2024, Sodium and Chloride Groundwater Data from Wells Within NRC Licensed Area Accelerated Decommissioning Partners, Crystal River Unit 3, Technical Memorandum dated May 29, 2024, File No. 134300-014.