

NRC Public Meeting  
for  
Crystal River Unit 3 Partial  
Site Release

# Purpose

Obtain comments on a Partial Site Release request for the Crystal River, Unit 3 facility.

The meeting will be transcribed.

# Agenda

- Applicable Regulations
- Application
- Providing Public Meeting Comments
- Feedback Directions
- Comment Period

# Applicable Regulations

If a licensee wants to release part of a facility or site for unrestricted use at any time before receiving approval of a license termination plan, written approval from the NRC is required. The requirements for releasing part of a facility or site for unrestricted use are found in 10 CFR 50.83.

# Applicable Regulations: 10 CFR 50.83

- Perform a historical site assessment
- Evaluate the impact of releasing the property, examples include
  - ❖ Ensure no reduction in effectiveness of emergency planning or physical security
  - ❖ Revise environmental monitoring program and offsite dose calculation manual as necessary
- Ensure dose to public does not exceed the limits and standards of 10 CFR 20, Subpart D
- Perform surveys adequate to demonstrate compliance with the unrestricted use radiological criteria in 10 CFR 20.1402 for impacted areas
- Evaluate the environmental effects of releasing the property

# Applicable Regulations: 10 CFR 20, Subpart D

Licensee shall conduct operations in a manner that limits the Total Effective Dose Equivalent to members of the public

- to not more than 100 mrem/yr exclusive of background radiation or medical applications
- from external sources, exclusive of medical applications, in any unrestricted area to less than 2 mrem/hr

# Applicable Regulations: 10 CFR 20.1402

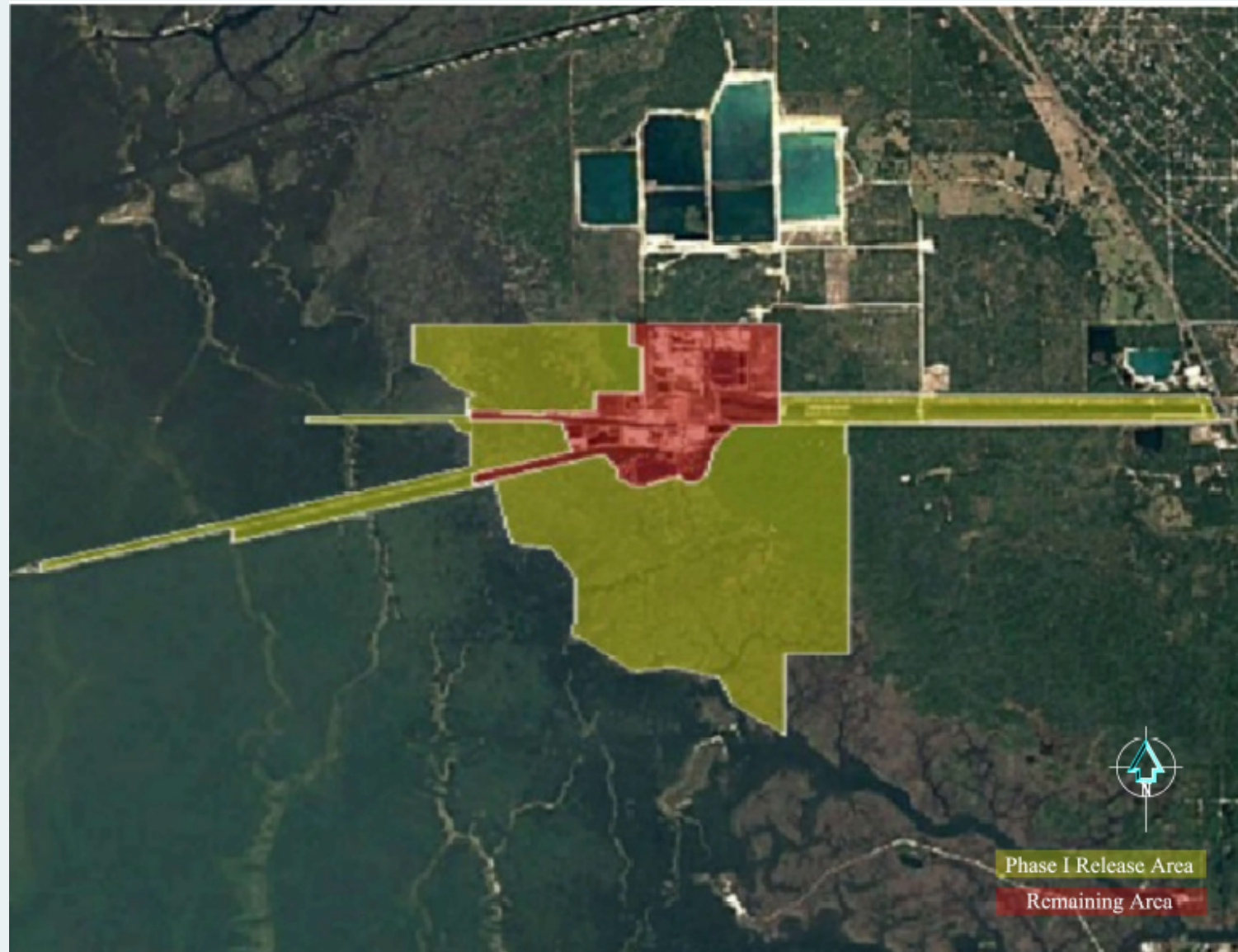
- A site is acceptable for unrestricted use if residual radioactivity that is distinguishable from background has been reduced As Low As Reasonably Achievable and results in a Total Effective Dose Equivalent to an average member of the critical group that does not exceed 25 mrem/yr.
- The 25 mrem/yr Total Effective Dose Equivalent includes dose associated with groundwater sources of drinking water.

# Application

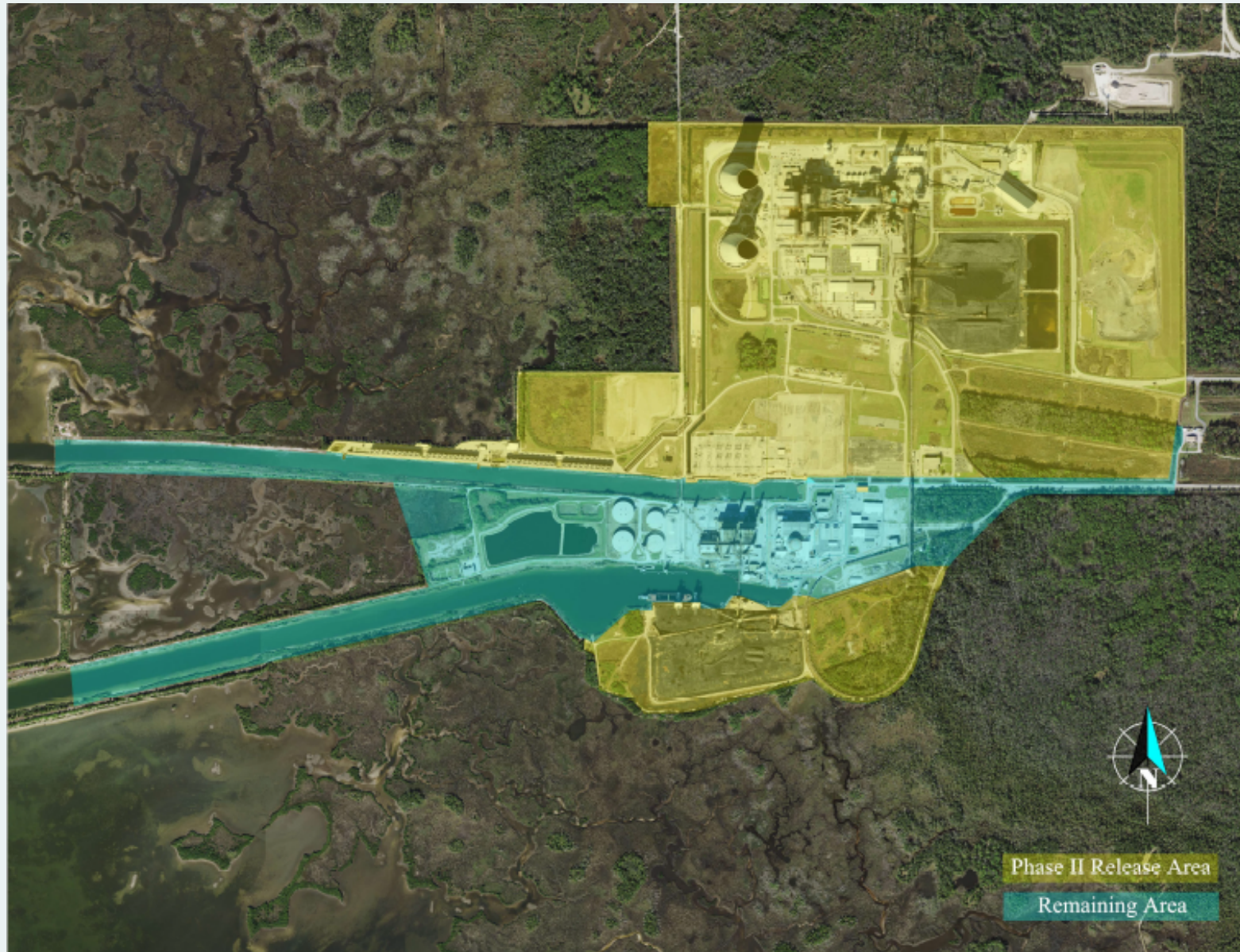
- *Impacted Areas* mean areas with some reasonable potential for residual radioactivity in excess of natural background or fallout levels
- *Non-impacted areas* mean areas with no reasonable potential for residual radioactivity in excess of natural background or fallout levels



# 2019 Partial Site Release



# 2025 Partial Site Release





# 2025 Partial Site Release

- ADP initial application (ADAMS Package Accession No. ML25041A177)
  - ❖ NRC accepted the application for review on March 20, 2025 (ADAMS Package Accession No. ML25069A435)
  - ❖ ADP approach
    - Demonstrate residual radioactivity in the areas to be released was indistinguishable from background radiation as Duke Energy Florida did in 2019
    - Demonstrate no groundwater contamination
- NRC discussed the application with ADP during a virtual audit between May 12 and May 29, 2025
- ADP submitted a revised application on June 18, 2025 (ADAMS Package Accession No. ML25170A017)
- NRC review is currently ongoing

# Indistinguishable from Background: Reference Area Activities



- Approach: Compare radioactivity of proposed release areas to offsite reference (background) areas
- Identify reference areas with similar characteristics as the proposed release area
- Obtain Data
  - ❖ Randomly choose sample locations
  - ❖ Obtain samples
  - ❖ Analyze for radioactivity

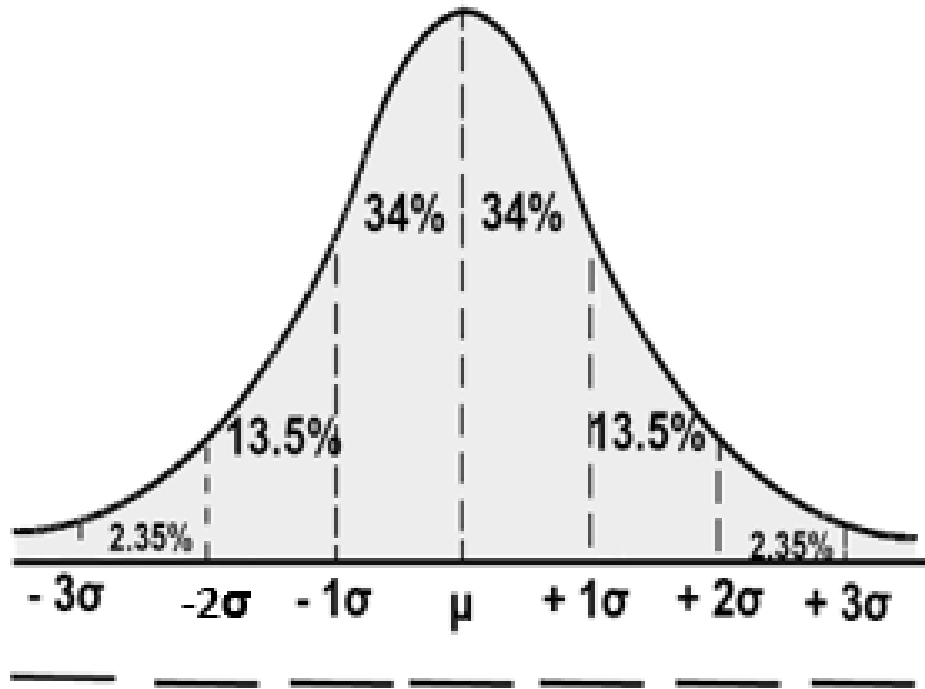


# Indistinguishable from Background: Release Area Activities



- Scan release areas to identify locations of elevated activity
- Identify sample locations
  - ❖ Random
  - ❖ Judgmental
  - ❖ Investigative
- Obtain samples
- Analyze samples for residual radioactivity

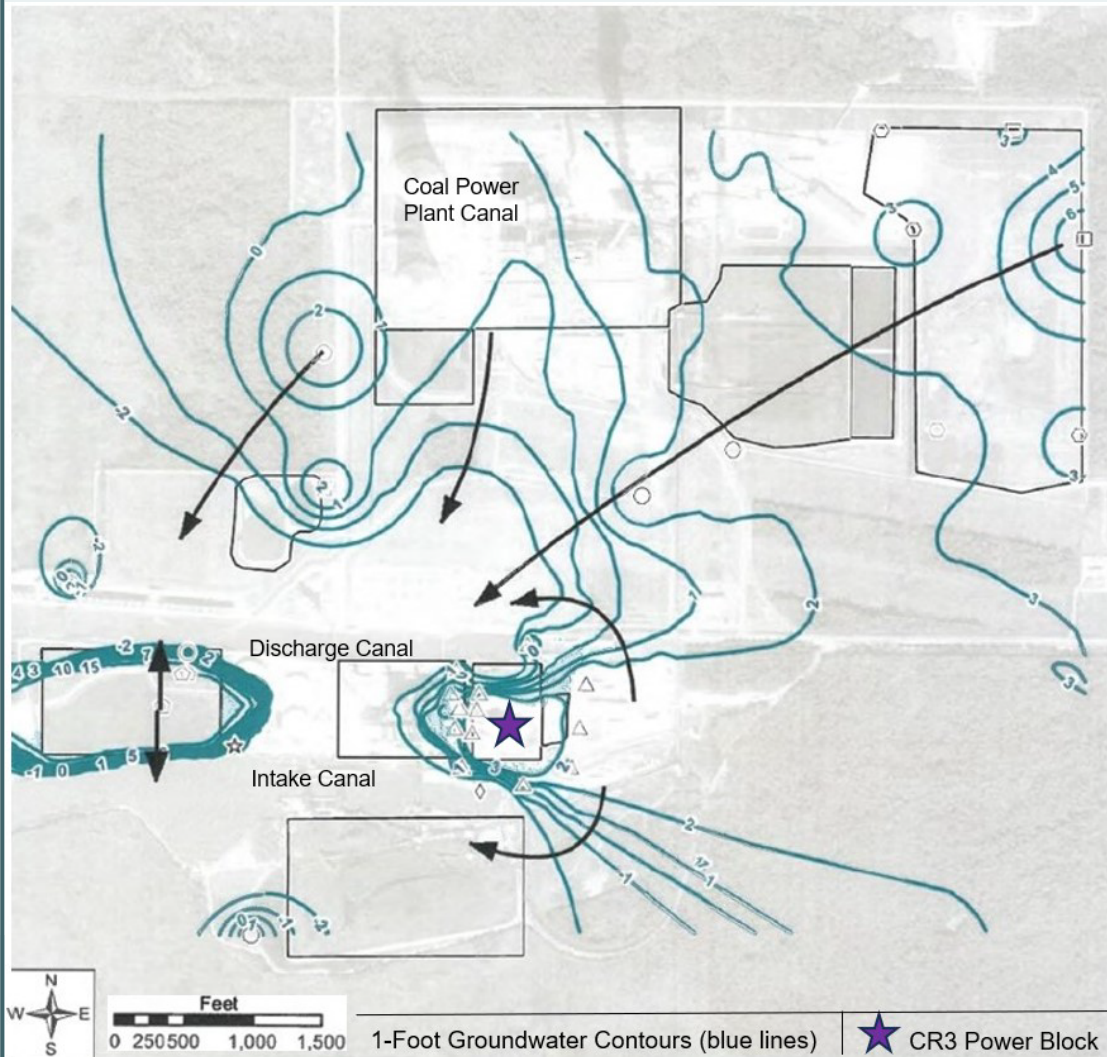
# Indistinguishable from Background: Demonstrating Compliance



- Initially, ADP attempted to show the release areas are indistinguishable from background by performing the following steps
  - ❖ Calculate an average sample value ( $\mu$ )
  - ❖ Calculate a sample standard deviation ( $\sigma$ )
  - ❖ Show all samples are less than  $\mu + 2\sigma$
- After the audit, ADP used statistical tests to demonstrate release areas are indistinguishable from background



# Groundwater Evaluation



- Initial approach:
  - ❖ Stated that groundwater was not suitable for drinking water or irrigation use due to mixing with seawater
  - ❖ Suggested that pumping wells would not be permitted by the State
  - ❖ Performed modeling that indicated the groundwater pathway is an insignificant contributor to dose
- After the audit:
  - ❖ Provided results of laboratory analyses that indicated plant-related radionuclides were not present in groundwater of the partial site release areas

# Application Summary

- ADP wants to release 618 acres of both impacted and non-impacted land areas for unrestricted use via the current Partial Site Release request
- ADP wants to update the Crystal River license Technical Specifications to recognize
  - ❖ The 3,489 acres released in 2019
  - ❖ The current proposed 618 acres release
- ADP is demonstrating compliance with the regulations by showing that
  - ❖ Residual contamination is indistinguishable from background
  - ❖ There is no groundwater contamination



# Public Comments

# Providing Comments: Public Meeting

- During this public meeting, which is being transcribed
  - ❖ via computer: please select the “raise hand” icon
  - ❖ via phone: please press **\*5 to raise your hand**; press \*5 again to lower your hand
- The TEAMS facilitator will call your name and enable your microphone after seeing a raised hand
  - If joining via phone, it will take about 4 seconds for the system to instruct the caller to press **\*6 to unmute your microphone**
- Please introduce yourself and clearly state your name and affiliation for the court reporter
- Your microphone will be disabled after you are done
- Federal Rulemaking website: <http://www.regulations.gov>
  - Search for Docket ID NRC-2025-0181
  - Comments due by August 1, 2025

# Providing Comments: Other

- By mail:
  - Office of Administration
  - Mail Stop: TWFN-7-A60M
  - U.S. Nuclear Regulatory Commission
  - Washington, DC 20555-0001
  - ATTN: Program Management, Announcements and Editing Staff
- Federal Rulemaking website: <http://www.regulations.gov>
  - Search for Docket ID NRC-2025-0181
  - Comments due by August 1, 2025

# NRC Public Meeting Feedback

- To improve future meetings and to provide feedback on this meeting, you are invited to complete a questionnaire by one of the following methods:
  - ❖ Scanning the Quick Response (QR) code on this slide.
  - ❖ Going to the Public Meeting Schedule on the NRC public website and pressing the “Meeting Feedback” link for the specific meeting or pressing the “[...more]” link for a specific meeting and then pressing the “Meeting Feedback” link on the “Meeting Details” page.
  - ❖ Filling out a “Public Meeting Feedback Form” hard copy in the room and either providing it to an NRC staff member or mailing in the form.

