ADP CR3, LLC

Crystal River Nuclear Plant
2760 South Falkenburg Rd
Riverview FL, 33578
Docket 50-302
Docket 72-1035
Operating License No. DPR-72

10 CFR 50.90

August 18, 2021
3F0821-01

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Crystal River Unit 3 – Response to Requests for Additional Information and Supplement 1 to License Amendment Request, Revision to Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency Plan, and ISFSI-Only Emergency Action Level Bases Manual.

Reference:
1. CR-3 to NRC letter dated March 17, 2021, "Crystal River Unit 3 – License Amendment Request, Revision to Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency Plan, Draft A, and ISFSI-Only Emergency Action Level Bases Manual" (ADAMS Accession No. ML21076A386)
2. NRC to CR-3 letter dated July 6, 2021, "Crystal River Unit 3 Nuclear Generating Plant - Request for Additional Information Regarding the License Amendment to Update the Emergency Plan for the Independent Spent Fuel Storage Installation (EPID L-2021-LLA-0047)" (ADAMS Accession No. ML21182A103)

Dear Madam or Sir:

Pursuant to 10 CFR 50.90, ADP CR3, LLC (ADP CR3) hereby provides the response to Request for Additional Information (RAI) regarding the License Amendment Request (LAR) to update the Emergency Plan for the Independent Spent Fuel Storage Installation (ISFSI). In Reference 1, Crystal River Unit 3 (CR-3) proposed changes to the ISFSI-Only Emergency Plan and ISFSI-Only Emergency Action Level Bases Manual, submitting Draft Revision A of the plan.

In Reference 2, the NRC provided RAIs regarding proposed changes to the CR-3 ISFSI-Only Emergency Plan and ISFSI-Only Emergency Action Level Bases Manual. Attachment A to this letter contains the responses to the RAIs. Attachment B to this letter contains Supplement 1 to the LAR whereby submitting Draft Revision B of the ISFSI-Only Emergency Plan

The conclusions of the No Significant Hazards Consideration and the Environmental Impact Evaluation contained in Reference 1 are not affected by, and remain applicable to, this Supplement.

A copy of this submittal has been provided to the State of Florida in accordance with 10 CFR 50.91(b).

There are no new regulatory commitments made within this submittal.

If you have any questions regarding this submittal, please contact Mr. Mark Van Sicklen, Licensing Manager, at (352) 224-1200, ext. 2901.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 18, 2021.

Sincerely,

Billy Reid, Site Vice President

BR/mvs

Enclosures:
1. Response to Requests for Additional Information
2. ISFSI-Only Emergency Plan, Draft Revision B (Clean Copy)

xc: NMSS Project Manager
Regional Administrator, Region I
State of Florida

ADP CR3, LLC

CRYSTAL RIVER UNIT 3

DOCKET NUMBERS 50-302 AND 72-1035
LICENSE NUMBER DPR-72

ISFSI-ONLY EMERGENCY PLAN, DRAFT REVISION B

ENCLOSURE 1

RESPONSE TO REQUESTS FOR ADDITIONAL INFORMATION

By application dated March 17, 2021 (ADAMS Accession No. ML21085A750), ADP CR3, LLC (ADP CR3) requested approval by the U.S. Nuclear Regulatory Commission of proposed changes to the Crystal River Unit 3 Nuclear Generating Plant (CR-3) Independent Spent Fuel Storage Installation – Only Emergency Plan (IOEP). The proposed changes would revise the emergency action levels, revise the emergency response organization (ERO), incorporate the Emergency Action Level Bases Manual into the IOEP, and remove items unnecessarily carried over from the Permanently Defueled Emergency Plan (PDEP) and previous plans.

The following information is needed to complete the NRC staff's technical review. Specifically, the following requests for additional information (RAIs) will facilitate the technical review being conducted by the Reactor Licensing Branch staff in the Division of Preparedness and Response in the NRC's Office of Nuclear Security and Incident Response.

RAI-1

Requirement:

- Paragraph 10 CFR 50.4 7(b)(4) of Title 10 of the Code of Federal Regulations (10 CFR), as exempted, requires in part, a standard emergency classification and action level scheme, the basis of which include facility system and effluent parameters, be in use by the nuclear facility licensee.
- 10 CFR Part 50, Appendix E.IV.B.1, as exempted, requires, in part, the emergency action levels (EALs) that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, as well as the EALs that are to be used for determining when and what type of protective measures should be considered within the site boundary to protect health and safety.

Issue: Section 4.1, "Revision of the Emergency Action Levels," of Enclosure 1, "Discussion of Change, Technical Analysis, Significant Hazards Determination, and Environmental Considerations," of ADP CR3's March 17, 2021, application states:

> The ICs [initiating conditions] associated with the Unusual Event Classification are being deleted from the EALs above because they are primarily associated with a decommissioning nuclear power plant site with spent fuel stored in the spent fuel pool (SFP) and are not applicable to an ISFSI facility, which, according to regulatory guidance, should be addressed with only an Alert emergency classification.

Section 4.1 further, states, in part:

> Specifically, Nuclear Energy Institute (NEI) 99-01[, "Development of Emergency Action Levels for Non-Passive Reactors,"] supports this approach in Section 1.3 ISFSI, which states:
>
> > Regarding the above information, the expectations for an offsite response to an Alert classified under a 10 CFR § 72.32 emergency plan are generally consistent with those for a Notification of Unusual Event in a 10 CFR § 50.47 emergency plan (e.g., to provide assistance if requested).

However, the application does not provide a technical justification as to why CR-3 is not able to implement the currently approved EAL scheme that was developed in accordance with endorsed

industry guidance and previously approved by the NRC in a letter dated March 22, 2017 (ADAMS Accession No. ML17048A473).

Request: Please provide a technical justification as to why CR-3 is not able to implement the currently approved EAL scheme that was developed in accordance with endorsed industry guidance and previously approved by the NRC, and/or explain how the proposed alternative continues to meet the regulatory requirements related to emergency preparedness.

Response:

The proposed change was intended to improve efficiency; however, the current EAL scheme can still be implemented as previously approved by the NRC. ADP CR3 has withdrawn the requested EAL scheme and has reinserted the currently approved EAL scheme. (See Appendix C of IOEP Draft Rev. B – Enclosure 2)

RAI-2

Requirement:

- 10 CFR 50.47(b)(4), as exempted, requires, in part, that a standard emergency classification and action level scheme, the basis of which includes facility system and effluent parameters, be in use by the nuclear facility licensee.
- 10 CFR Part 50, Appendix E.IV.B.1, as exempted, requires, in part, the EALs that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, as well as the EALs that are to be used for determining when and what type of protective measures should be considered within the site boundary to protect health and safety.

Issue: Table 1, "Emergency Plan Initiation Conditions Being Deleted or Revised," in Section 4.1 of Enclosure 1 to ADP CR3's March 17, 2021, application removes the following EAL:

PD-HA1: HOSTILE ACTION is occurring or has occurred

However, the application does not provide a technical justification for the removal of this EAL and is not consistent with the current CR-3 EAL scheme, which was developed in accordance with NRC-endorsed industry EAL guidance and the NEI document NEI 03-12, "Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program]."

Request: Please provide a technical justification for the removal of this EAL, as it is currently in accordance with endorsed industry guidance, and was previously approved by the NRC.

Response:

The proposed change would have assured an appropriate response for HOSTILE ACTION at a lower threshold; however, the current EAL scheme can still be implemented as previously approved by the NRC. ADP CR3 has withdrawn the requested EAL scheme and has reinserted the currently approved EAL scheme. (See Appendix C of IOEP Draft Rev. B – Enclosure 2)

RAI-3

Requirement:

- 10 CFR Part 50, Appendix E.IV.B.1, as exempted, requires that EALs shall be reviewed with the State and local governmental authorities on an annual basis.

Issue: Section 7.2, "Emergency Action Levels and Postulated Accidents," of the proposed CR-3 IOEP states,

> EALs shall be reviewed with State of Florida government authorities on an ANNUAL basis.

Further, Table 2, "Change Summary Table," of Enclosure 1 to ADP CR3's March 17, 2021, application states:

> Change
> Revised reference location for the EAL Technical Bases and deleted reference to Citrus County.
>
> Reason
> Citrus County no longer reviews EALs. Citrus County Emergency Management is no longer involved in emergency response at CR3.

Request: Please provide a justification that describes how this proposed removal of the Citrus County review of EALs will continue to meet the regulatory requirement.

Response:
The annual review of EALs with Citrus County would have still been maintained at the implementing procedure level; however, IOEP Draft B has been revised to maintain the review as stated in the current IOEP (See Section 7.2 of IOEP Draft Rev. B – Enclosure 2)

RAI-4

Requirement:

- 10 CFR Part 50, Appendix E.IV.D.1, as exempted, requires that the administrative and physical means for notifying local, State, and Federal officials and agencies be described. This description shall include identification of the State and local governmental agencies.
- 10 CFR Part 50, Appendix E.IV.E.9.a, as exempted, requires provisions for communication with contiguous State/local governments.

Issue: Section 8.2.4, "Florida State Watch Office," of the proposed CR-3 IOEP states:

> The Florida State Watch Office (SWO) will be notified of an emergency via commercial telephone line.

Further, Table 2 of Enclosure 1 to ADP CR3's March 17, 2021, application states:

> Change
> Revised text for Florida State Watch Office related to SHRD [State Hot Ring Down] and deleted notification to county.
>
> Reason
> SHRD is no longer required and county notification of an emergency declaration may be performed at the discretion of the State, by the State.

However, in a previous response to an NRC staff RAI (ADAMS Accession No. ML14154A408), Duke Energy Florida, Inc. (DEF) stated:

> The State Watch Office Tallahassee (SWOT) will assume the responsibility to provide notification to the Citrus County Emergency Management (acknowledged by agreements between DEF and Citrus County and also the State of Florida).

Further, the information in Section 9.2.4, "Florida State Watch Office," of the current CR-3 IOEP (ADAMS Accession No. ML20203M142) states, in part:

> The SWO will notify the Florida DEM [Division of Emergency Management] and Citrus County officials of an emergency at the CR-3 ISFSI.

Request: Please provide a justification that describes how this proposed change to remove the notification to Citrus County will continue to meet the regulatory requirement.

Response:
The intent of the change was not to eliminate the State's notification to the County, which would have continued to be performed under the State's plan, but to reduce the level of detail in the CR-3 plan. The reference to the notification of Citrus County by the Florida State Watch Office will be maintained as currently stated in the IOEP (See Sections 5.3.1 and 8.2.5 of IOEP Draft Rev B – Enclosure 2)

RAI-5

Requirement:

- 10 CFR 50.47(b)(7), as exempted, requires that the principal points of contact with the news media for dissemination of information during an emergency be established in advance, and that procedures for coordinated dissemination of information to the public be established.
- Associated guidance in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Section II.G, Evaluation Criterion G.3.a, states that each licensee shall designate a point of contact for use by news media during an emergency.
- Associated guidance in NUREG-0654, Section II.G, Evaluation Criterion G.4.a, states that each licensee shall designate a spokesperson who should have access to all necessary information.
- Associated guidance in NUREG-0654, Section II.G, Evaluation Criterion G.4.b, states that each licensee shall establish arrangements for timely exchange of information among designated spokespersons.

- Associated guidance in NUREG-0654, Section II.G, Evaluation Criterion G.4.c, states that each licensee shall establish coordinated arrangements for dealing with rumors.

Issue: Section 10.0, "Public Information," of the proposed CR-3 IOEP states,

> The ISFSI Manager will coordinate with personnel for the dissemination of information to the media.

Further, Table 2 of Enclosure 1 to ADP CR3's March 17, 2021, application states:

> Change
> Revised Public Information Section
>
> Reason
> Addressed current PI [public information] protocol for new company. The ISFSI Manager is responsible for coordinating public information activities.

However, the information in Section 11.0, "Public Information," of the current CR-3 IOEP states:

> The Corporate Communications may establish a near-site response team for the CR-3 ISFSI.
>
> The near-site response team will be staffed with a company spokesperson and media communicators, who will provide local interaction with the media. If an event occurs at the CR-3 ISFSI, information will be disseminated to the public in a timely manner.
>
> Briefings with media organizations will be coordinated between Corporate Communications and the near-site response team per Corporate Communications protocols.

Request: Please provide a justification of how this proposed change meets the regulatory requirement and the guidance in NUREG-0654 Evaluation Criteria listed above.

Response:
The intent was not to change the process, which still referred to Corporate Communications in implementing procedures, but to reduce the level of detail in the CR-3 plan. The reference to Corporate Communications will be maintained as currently stated in the IOEP. (See IOEP Draft Rev. B Section 10.0 – Enclosure 2)

RAI-6

Requirement:

- 10 CFR 50.47(b)(2) requires that (1) the on-shift facility licensee responsibilities for emergency response are unambiguously defined, (2) adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, (3) timely augmentation of response capabilities is available, and (4) the interfaces among various onsite response activities and offsite support and response activities are specified.

Issue: Section 4.2, "Emergency Response Organization Revision - Deletion of the Resource Manager ERO position," of Enclosure 1 to ADP CR3's March 17, 2021, application states:

> In accordance with the IOEP, the Resource Manager was notified by the EC [Emergency Coordinator] within two (2) hours of classification "to augment the EC by assisting in assessing the emergency condition, coordinating required resources, including public information interface."

However, the NRC's original intent for the Resource Manager was to provide radiological assistance to determine the radiological status of the ISFSI, as well as technical assistance in the form of engineering support to determine corrective actions, as needed.

Request: Please describe how the CR-3 ISFSI Shift Supervisor/EC has the knowledge, skills, and ability to determine the radiological status, as well as the technical status, during an event at the ISFSI to determine protective actions and corrective actions, as needed.

Response:
The ISFSI Shift Supervisor/EC is fully trained in the activities necessary to effectively classify and respond to an event at CR-3. The two ISFSI events, which require particular expertise, are related to security and radiological conditions. The on-shift ISFSI Shift Supervisor will be staffed by a Security Shift Supervisor who is fully trained and equipped to address security events and hostile actions. Additionally, each ISFSI Shift Supervisor receives emergency coordinator training as outlined in the IOEP, which includes training in radiological monitoring and ISFSI technical knowledge, including ISFSI design and licensing basis, giving them the ability to perform accurate and timely classifications for the two possible ISFSI Events. They are also trained on onsite protective actions.

Section 18.1 of the proposed IOEP revision lists the following subjects that are covered as minimum on an annual basis:

- Emergency Action Level Classification
- Federal, State and local government notification procedures
- ERO Implementation
- Dose Rate Meter operation
- Radiological Assessment
- Emergency Exposure Control
- Protective Actions for onsite personnel
- ISFSI design basis accidents
- Review of applicable drill identified deficiencies and recommendations

The Radiation Protection Coordinator is on call and reports to the ISFSI within 4 hours when notified. In addition, all Security Officers will be trained in radiological monitoring to support the EC. The ISFSI Shift Supervisor/EC also has the authority to augment both radiological and technical support as well as calling in any other company support for corrective actions that may be necessary.

IOEP Section 6.1.1 - Other responsibilities assumed by the EC associated with the functions listed in Table 6-1 include:

- *Augmentation of the emergency staff, as deemed necessary*

IOEP Section 6.2 - For any Emergency Classification, support personnel can be activated at the discretion of the EC.

Engineering technical support exists within the current ISFSI staff as well as the Dry Storage Vendor. Instead of calling the Resource Manager to coordinate this support, the EC will directly call the technical support, as needed.

The EC training gives the ISFSI Shift Supervisor/EC the necessary technical skills and abilities to effectively classify and respond to an event at CR-3 as well as the ability to determine radiological status. Training drills and evaluated exercises have demonstrated that an EC, trained and qualified in accordance with the IOEP, has the knowledge, skills and abilities to determine protective and corrective actions and the time to get any needed expertise, without the support of a Resource Manager.

ADP CR3, LLC

CRYSTAL RIVER UNIT 3

DOCKET NUMBERS 50-302 AND 72-1035/ LICENSE NUMBER DPR-72

LICENSE AMENDMENT REQUEST, ISFSI-ONLY EMERGENCY PLAN, WHICH NOW INCLUDES THE ISFSI-ONLY EMERGENCY ACTION LEVEL BASES MANUAL, DRAFT REVISION B

ENCLOSURE 2

ISFSI-ONLY EMERGENCY PLAN, DRAFT REVISION B

CRYSTAL RIVER UNIT 3

INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) ONLY EMERGENCY PLAN

(IOEP)

Revision DRAFT B

Emergency Planning Coordinator	**Date**
ISFSI Manager	**Date**

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1.0 INTRODUCTION

Crystal River Unit 3 Nuclear Plant (CR3) was safely shutdown on September 26, 2009. On February 20, 2013, by letter 3F0213-07, Duke Energy provided certification to the U.S. Nuclear Regulatory Commission (NRC) required by 10 CFR 50.82(a)(1)(i) and (ii) that CR3 has permanently ceased operations and that all fuel has been permanently removed from the reactor vessel. Subsequently, all spent fuel has been transferred to the on-site INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) facility.

The CR3 ISFSI Only Emergency Plan (IOEP) describes the plan for responding to emergencies that may arise at the station's ISFSI. In this condition, no reactor operations can take place and all irradiated fuel is removed from the Spent Fuel Pool. This IOEP adequately addresses the risks associated with CR3's current conditions.

As provided in the ISFSI storage system UFSARs, the analyses of the potential radiological impacts of postulated off-normal, natural phenomenon, and accident events in an ISFSI-Only condition indicates that any releases would result in a dose to the public below the radiation limits established in 10 CFR 72.106(b). Exposure levels, which warrant pre-planned response measures, are generally limited to the ISFSI pad and nearby vicinity, and for this reason; radiological emergency planning is focused on this area.

1.1 PURPOSE

The purpose of the IOEP is to assure an adequate level of preparedness to cope with the spectrum of emergencies that could be postulated to occur. This Plan integrates the necessary elements to provide effective emergency response considering cooperation and coordination of organizations expected to respond to emergencies.

1.2 SCOPE

The IOEP is developed to respond to potential radiological emergencies at the CR3 ISFSI. Because there are no postulated off-normal, natural phenomenon, or accident events that would result in offsite dose consequences large enough to require offsite emergency planning, the overall scope of this plan delineates the actions necessary to safeguard onsite personnel. The concepts presented in this plan address the applicable regulations stipulated in 10 CFR 72.32, “Emergency Plan”, 10 CFR 50.47, “Emergency Plans,” and 10 CFR 50 Appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities”. The Plan is consistent with the applicable guidelines established in NUREG-0654/FEMA-REP-1, Revision 1, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants” and NEI 99-01, “Development of Emergency Action Levels for Non-Passive Reactors,” Rev. 6.

Exemptions from selected portions of 10 CFR 50.47 and 10 CFR 50 Appendix E for CR3 were granted by the Nuclear Regulatory Commission (NRC) on March 30, 2015 (ADAMS Accession Number: ML15058A906).

The IOEP, Revision 0, was approved per NRC Safety Evaluation dated March 22, 2017.

The IOEP, Revision 1 changes were approved per NRC Safety Evaluation dated May 3, 2019.

The IOEP, Revision 2 was issued July 1, 2020 to address site license change.

The IOEP, Revision 3 changes were approved per NRC Safety Evaluation dated XXXX XX, XXXX.

2.0 DISCUSSION

2.1 OVERVIEW OF ISFSI-ONLY EMERGENCY PLAN (IOEP)

In the event of an emergency at the CR3 ISFSI, actions are required to identify and assess the nature of the emergency and to bring it under control in a manner that protects the health and safety of onsite personnel. This Plan describes the organization and responsibilities of the licensee for implementing emergency measures. It describes interfaces with Federal, State of Florida, and Citrus County organizations, which may be notified in the event of an emergency, and may provide assistance. Offsite emergency services, if needed, are provided by local public and private entities.

CR3 is licensed under the requirements of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." Consistent with the requirements of 10 CFR Part 50, this Plan is based on the requirements of 10 CFR Part 50, Section 50.47(b) and Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," with approved exemptions. Sections 5.0 thru 19.0 of this Plan address the standards outlined in 10 CFR 50.47(b)(1) through (16). The Plan also complies with 10 CFR 72.32, "Emergency Plan" for ISFSI. In addition, the Plan is also intended to meet appropriate U.S. NRC regulations in accordance with the Operating License (No. DPR 72). CR3 is licensed to store spent fuel in the CR3 ISFSI under the General License provisions of 10 CFR 72.210 and 10 CFR 72.212.

Analyses of the credible design basis events and consequences indicate there are no postulated accidents that would result in off-site dose consequences that are large enough to require off-site emergency planning. Emergencies are divided into two classifications: 1) Notification of UNUSUAL EVENT and 2) ALERT. This classification scheme has been discussed and agreed upon with responsible off-site organizations

2.1 OVERVIEW OF ISFSI-ONLY EMERGENCY PLAN (IOEP) (Continued)

The licensee is responsible for planning and implementing emergency measures associated with the CR3 ISFSI. This Plan is provided to meet that responsibility. To carry out specific emergency measures discussed in this Plan, detailed implementing procedures are established and maintained. Appendix A provides a listing of the implementing procedures for this Plan.

In addition to the description of activities and steps that can be implemented during a potential emergency, this Plan also provides a general description of the steps taken to recover from an emergency. It also describes the training, drills, exercises, planning, and coordination appropriate to maintain an adequate level of emergency preparedness.

2.2 FACILITY DESCRIPTION

The CR3 Plant is located at Red Level, Florida in Citrus County, about 5 miles south of Levy County. The site is 7.5 miles northwest of Crystal River, Florida and 90 miles north of St. Petersburg, Florida. CR3 is situated on the Gulf of Mexico, within the Crystal River Energy Complex.

CR3 formerly consisted of a single unit nominal 911 MWe / 2609 MWth Nuclear Power Plant, utilizing a Babcock & Wilcox (B&W) Company (currently AREVA) pressurized water reactor (PWR). The unit is certified to have ceased power operations and is permanently defueled in accordance with 10 CFR 50.82(a)(1)(i) and (ii). All spent fuel has been transferred to the CR3 INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) which is located to the east of the CR3 Plant. The CR3 ISFSI is a robust and high integrity facility for the spent fuel storage system. This facility is designed to prevent the release of radioactivity in the event of accidents, including environmental phenomena (e.g., earthquake and flooding).

2.3 SUMMARY OF EMERGENCY ACTIONS

The IOEP is activated by the ISFSI Shift Supervisor (ISS) upon identification of an emergency situation based upon the EMERGENCY ACTION LEVEL (EAL) criteria. The ISS assumes the position of the EMERGENCY COORDINATOR (EC). The emergency measures described in the subsequent sections and implementing procedures are implemented in accordance with the classification and nature of the emergency at the direction of the EC. Regulatory authorities and off-site support organizations are notified in accordance with this Plan. The EC has authority and responsibility for control and mitigation of the emergency, including emergency response resources, coordination of radiological ASSESSMENT ACTIVITIES, RECOVERY implementation, and coordination of emergency response activities.

The following sections of this IOEP describe the detailed plans and actions of the CR3 Emergency Response Organization (ERO), including interfaces with off-site support organizations.

3.0 REFERENCES

3.1 10 CFR 50.47, “Emergency Plans”

3.2 10 CFR Part 50, Appendix "E," "Emergency Planning and Preparedness for Production and Utilization Facilities"

3.3 10 CFR Part 20, "Standards for Protection Against Radiation"

3.4 NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations" (July 1979)

3.5 NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980)

3.6 Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors"

3.7 Environmental Protection Agency, “Protective Action Guide and Planning Guidance for Radiological Incidents,” Draft for Interim Use and Public Comment (March 2013)

3.8 "State of Florida Radiological Emergency Management Plan" (herein referred to as State Plan)

3.9 State of Florida Statutes, Chapter 170J-1, "Control of Radiation Hazards"

3.10 CR3 Defueled Safety Analysis Report (DSAR)

3.11 CR3 Permanently Defueled Technical Specifications

3.12 Emergency Plan Implementing Procedures

3.13 Bayfront Health Seven Rivers Hospital "Radioactive Materials Procedure”

3.14 NRC Bulletin 2005-02, “Emergency Preparedness and Response Actions for Security-Based Events”

3.15 NEI 99-01, “Development of Emergency Action Levels for Non-Passive Reactors,” Rev. 6

3.16 CR3 Letter 3F0213-07 dated February 20, 2013. Crystal River Unit 3 – Certification of Permanent Cessation of Power Operations and that Fuel Has Been Permanently Removed from the Reactor. ML13056A005.

3.17 NRC Letter dated March 13, 2013. Crystal River Unit 3 Nuclear Generating Plant Certification of Permanent Cessation of Operation and Permanent Removal of Fuel From the Reactor.

3.18 NRC Letter dated March 30, 2015. Exemptions From Certain Emergency Planning Requirements And Related Safety Evaluation. ML15058A906.

3.19 ISFSI Storage System Certificates of Compliance, Updated Final Safety Analysis Reports and Technical Specifications.

3.20 10 CFR 72.106, Controlled area of an ISFSI or MRS.

3.21 10 CFR 72.32 “Emergency Plan”

4.0 DEFINITIONS AND ABBREVIATIONS

4.1 DEFINITIONS

This section provides definitions that are used in this document. Terms capitalized in the text of this document indicate that they are defined here.

1. **Accountability:** Discretionary protective action taken for all persons onsite (within the PROTECTED AREA) that involves the gathering of personnel into pre-designated areas and subsequent verification that the location of all personnel is known.

2. **Annual**: Once per calendar year unless otherwise specifically stated.

3. **Assessment Activities**: Actions taken during or after an emergency for the purpose of obtaining and processing the information that will be used to make the decisions to implement specific emergency measures.

4. **Confinement Boundary:** The barrier(s) between spent fuel and the environment once the spent fuel is processed for dry storage. As applied to the CR3 ISFSI, the CONFINEMENT BOUNDARY is the Dry Shielded Canister (DSC) consisting of the DSC shell, the inner top and inner bottom cover plates, the siphon and vent block, the siphon and vent port cover plates, and the associated welds.

5. **Controlled Area**: The area of land (approximately 884 acres) that is owned, leased, or otherwise controlled by the licensee. The CONTROLLED AREA is the area of land within the SITE BOUNDARY, as shown in Figure 2-2 of the DSAR. The PROTECTED AREA is located within the CONTROLLED AREA.

6. **Credible Security Threat:** A threat to the CR3 ISFSI confirmed and validated by Security per procedures or received over the Emergency Notification System (ENS) from the NRC.

7. **Emergency Actions**: Assessment, corrective, and PROTECTIVE ACTIONS designed to achieve a safe, stable condition, and to immediately mitigate the effects of the emergency.

8. **Emergency Action Level (EAL)**: A pre-determined, observable threshold for conditions that places the CR3 ISFSI in a given emergency classification.

4.1 DEFINITIONS (Continued)

9. **Emergency Classification System**: A system of classification in which emergency occurrences are categorized according to specific protective action levels. The two emergency classifications in order of significance are UNUSUAL EVENT and ALERT. These classifications are defined by NEI 99-01, Rev. 6 as follows:

   a. **Unusual Event**: Events are in progress or have occurred which indicate a potential degradation of the level of safety of the ISFSI or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

   b. **Alert**: Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the CR3 ISFSI or a security event that involves probable life threatening risk to site personnel or damage to ISFSI equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA PAG exposure levels.

10. **Emergency Coordinator (EC)**: This position is the highest level of authority for the CR3 ERO and on-site emergency activities. This position is held by the ISFSI Shift Supervisor or designated alternate.

11. **Frequency**: That unit of time specified (monthly, quarterly, etc.) plus or minus 25 percent unless otherwise specifically stated. This definition does not apply to "ANNUAL" when it is related to the conduct of the Biennial Exercise (NRC Evaluated). Biennial Exercises are performed within the calendar year.

12. **Hostile Action**: An act toward the CR3 ISFSI or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included.

    "HOSTILE ACTION" should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the CR3 ISFSI.

4.1 DEFINITIONS (Continued)

13. **Hostile Force**: One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction. (NEI 99-01, Rev. 6)

14. **Independent Spent Fuel Storage Installation (ISFSI)**: A complex that is designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage.

15. **Local Assembly Area:** A pre-designated area personnel report to for organization, roll-call, and supervision when CR3 ISFSI ACCOUNTABILITY is initiated.

16. **Protected Area**: The area encompassed by physical barriers and to which access is controlled.

17. **Protective Action Guide (PAG)**: The projected dose to an individual, resulting from a radiological incident at which a specific protective action to reduce or avoid that dose is warranted.

18. **Recovery**: The condition declared after the immediate hazards to life and safety due to the emergency have been removed and efforts are directed to returning affected areas to normal.

19. **Recovery Actions**: Those actions taken after the emergency to restore the CR3 ISFSI as nearly as possible to its pre-emergency condition.

20. **Security Condition**: Any security event as listed in the approved security contingency plan that constitutes a threat/compromise to ISFSI security, threat/risk to ISFSI personnel, or a potential degradation to the level of safety of the CR3 ISFSI. A SECURITY CONDITION may or may not involve a HOSTILE ACTION.

21. **Site Boundary**: That line beyond which the land is not owned, leased, or otherwise controlled by the licensee. This line establishes the perimeter of the CONTROLLED AREA (CA).

4.2 ABBREVIATIONS

CCSO	Citrus County Sheriff's Office
CR3	Crystal River Unit 3
EAL	Emergency Action Level
EC	Emergency Coordinator
ENS	Emergency Notification System
EPA	U.S. Environmental Protection Agency
ERO	Emergency Response Organization
DSAR	Defueled Safety Analysis Report
ISFSI	Independent Spent Fuel Storage Installation
NRC	U.S. Nuclear Regulatory Commission
ORO	Offsite Response Organization
PAG	Protective Action Guide
RCA	Radiation Controlled Area
REAC/TS	Radiation Emergency Assistance Center/Training Site
SWO	State Watch Office

5.0 ASSIGNMENT OF RESPONSIBILITY (ORGANIZATION CONTROL)

The CR3 ISFSI Organization has complete capability at all times to perform the detection, classification, initial response, and notification functions required during an emergency.

Primary responsibilities for emergency response have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

5.1 ISFSI ORGANIZATION

The licensee is responsible for the safe storage of spent fuel in accordance with the State of Florida and NRC regulations. Responsibility for planning and implementing all emergency measures rests with the licensee.

The CR3 ISFSI Organization has an inherent emergency response/RECOVERY function in its overall management and operation. This function can be delineated by reviewing management structure and responsibilities as follows:

1. **ISFSI Manager**

   The ISFSI Manager is directly responsible for the operation of the CR3 ISFSI and has ultimate responsibility for the overall effectiveness of the CR3 IOEP.

2. **ISFSI Shift Supervisor (ISS)**

   The on-shift ISS reports to the ISFSI Manager for the purposes of performing EC responsibilities. The ISS is staffed 24-hours a day, and is the senior management position during off-hours. This position is responsible for monitoring conditions at the CR3 ISFSI.

5.2 EMERGENCY RESPONSE AND RESPONSIBILITIES

The ISFSI Shift Supervisor (ISS) has the responsibility and authority to declare an emergency and initiate appropriate actions in accordance with written procedures to mitigate the consequences. When an off-normal, natural phenomenon, or accident event becomes apparent, the ISS shall assess the condition and declare an emergency if warranted. When an emergency is declared the ISS assumes the position of the Emergency Coordinator (EC).

The EC is responsible for the direction of all activities at the ISFSI site during an emergency. Should evaluation indicate the need, the EC has the authority to direct any or all personnel to relocate from the ISFSI and surrounding area and to notify all applicable agencies of the ISFSI status. The EC ensures that appropriate actions are taken to mobilize emergency teams and to notify management and applicable off site supporting organizations and regulatory agencies as necessary.

The functions associated within the EC's scope of responsibilities are specified in Table 6-1. The EC does not have concurrent duties which conflict with these responsibilities. At the direction of the EC, additional personnel may be activated to support the on-shift staff.

5.3 OFFSITE RESPONSE ORGANIZATIONS (ORO)

Response organizations are available on a continuous basis and interrelate to receive notifications and communications and provide medical and law enforcement support to the CR3 ISFSI.

5.3.1 FLORIDA STATE WATCH OFFICE (SWO)

The Florida State Watch Office (SWO) is the primary point of contact for the State of Florida for the purpose of notification of an emergency declaration. Notification of an emergency will be made to the SWO within 60 minutes after an emergency declaration or change in classification. The SWO will notify the Division of Emergency Management (DEM) and Citrus County officials of an emergency at the CR3 ISFSI.

Emergency notification is received from the EC or designated alternate by use of commercially available communications equipment.

5.3.2 CITRUS COUNTY SHERIFF'S OFFICE

The Citrus County Sheriff's Office is responsible for coordinating law enforcement and fire support at the CR3 ISFSI, via the Citrus County 9-1-1 Dispatch Center.

5.3.3 BAYFRONT HEALTH SEVEN RIVERS HOSPITAL

Bayfront Health Seven Rivers hospital in Crystal River, Florida serves as the hospital to treat injuries resulting from any non-radiological or radiological emergency situation at the CR3 ISFSI.

The hospital will furnish the services of physicians to injured persons. The hospital will accept all patients dispatched from the CR3 ISFSI. If necessary, the hospital will utilize radiological support provided by CR3 ISFSI Staff.

5.3.4 LOCAL EMERGENCY MEDICAL SERVICES

Ambulance service is available 24 hours per day to provide assistance in the event of an emergency at the CR3 ISFSI via the Citrus County 9-1-1 Dispatch Center.

5.3.5 STATE AND FEDERAL GOVERNMENT

State and Federal Government response is expected to be limited to documenting the notification of the emergency, periodically receiving updated information on the emergency, and coordinating public information releases if necessary. Investigations or inquiries may be initiated by State or Federal Officials following an event.

5.4 WRITTEN AGREEMENTS FOR EMERGENCY RESPONSE

Agreements have been established, in writing, with organizations having responsibilities for responding to emergencies at the CR3 ISFSI. Appendix B contains a list of these agreements. A copy of each agreement is maintained on file.

6.0 EMERGENCY RESPONSE ORGANIZATION

Emergency Response Organization (ERO) responsibilities for emergency response are listed in Table 6-1.

6.1 ON-SHIFT POSITIONS

The personnel and resources of the CR3 ISFSI organization maintain the capabilities necessary to respond to an emergency. All ISFSI activities are conducted under the direction and control of the ISFSI Manager. To provide support in required areas, the CR3 ISFSI organization is broken down into functional areas headed by designated managers. As appropriate, these areas are further subdivided according to specific technical disciplines or support functions.

6.1.1 ISFSI SHIFT SUPERVISOR (ISS) / EMERGENCY COORDINATOR (EC)

The ISFSI Shift Supervisor (ISS) is at the CR3 ISFSI on a 24-hour basis and is the senior management position during off-hours. This position is responsible for monitoring conditions at the CR3 ISFSI. The ISS has the responsibility and authority to declare an emergency and to initiate appropriate actions in accordance with written procedures to mitigate the consequences of the emergency. The ISS will assume the position of EC upon declaration of an emergency.

The EC is responsible for the direction of all activities at the CR3 ISFSI during any emergency. In accordance with site procedures, the EC shall evaluate the emergency and take necessary actions to mitigate the consequences. The EC has the authority to direct personnel to relocate or to direct activities on the Energy Complex as necessary to ensure personnel safety.

The EC is responsible for assuring that appropriate corrective and protective actions are taken to mobilize emergency response personnel and for notifying management and off site supporting organizations and regulatory agencies, as necessary.

6.1.1 ISFSI SHIFT SUPERVISOR (ISS) / EMERGENCY COORDINATOR (EC) (Continued)

Other responsibilities assumed by the EC associated with the functions listed in Table 6-1 include:

- classification of the event (cannot be delegated)
- authorization of State and NRC Notifications (cannot be delegated)
- authorization of radiation exposure in excess of 10 CFR 20 limits. (cannot be delegated)
- management of available station resources
- initiation of mitigative actions
- initiation of corrective actions
- initiation of onsite protective actions
- decision to request offsite police, fire, or ambulance assistance
- augmentation of the emergency staff, as deemed necessary
- coordination of Security activities
- termination of the emergency condition when appropriate
- performance of initial radiological assessment
- maintaining a record of event activities, and
- suspension of security measures

6.1.2 SECURITY

Security staffing is maintained in accordance with the CR3 ISFSI Security Plan.

6.2 CR3 ISFSI AUGMENTED EMERGENCY RESPONSE ORGANIZATION

The licensee maintains the necessary personnel and resources to support the CR3 ISFSI EC in responding to an emergency. For any Emergency Classification, support personnel can be activated at the discretion of the EC.

6.2.1 RADIATION PROTECTION COORDINATOR

For a declared emergency involving radiological consequences (E-HU1), a minimum of one person trained in radiological monitoring and assessment will report to the CR3 ISFSI within four hours of the emergency declaration to assist the EC.

6.2.2 MEDICAL RESPONSE PERSONNEL

Individuals trained in first aid will be available. Medical supplies are available at the CR3 ISFSI. First aid assistance is designed to handle a wide range of injuries. This task is accomplished by on-site individuals trained in basic first aid procedures.

6.2.3 FIRE RESPONSE

Firefighting response at the CR3 ISFSI is implemented in accordance with the CR3 ISFSI Fire Protection Plan. Citrus County Fire Rescue is designated to provide response and support services as requested. The nearest staffed fire department is approximately 10 miles away from the CR3 ISFSI, which allows for a timely response from the initial notification.

6.2.4 COMPANY SUPPORT ORGANIZATIONS

In the event of an emergency at the CR3 ISFSI that requires personnel and other support resources beyond those available within the CR3 ERO, support is available from other facilities and can be requested from various contractors.

6.2.5 OFFSITE RESPONSE ORGANIZATIONS (ORO)

Additional support is available from OROs, as previously discussed in section 5.3 of this IOEP.

TABLE 6.1

EMERGENCY RESPONSE ORGANIZATION STAFFING AND RESPONSIBILITIES

FUNCTIONAL AREA	LOCATION	ON-SHIFT STAFF	AUGMENTED OFFSITE RESPONSE
Assessment of Condition (Emergency Declaration)	Emergency Response Facility	EMERGENCY COORDINATOR	____
Emergency Direction and Control	Emergency Response Facility	EMERGENCY COORDINATOR	------
Notification/Communication	Emergency Response Facility	EMERGENCY COORDINATOR	------
Radiological Accident Assessment and Protective Actions	Emergency Response Facility/ On Scene	EMERGENCY COORDINATOR	____ Radiation Protection Coordinator- **Note 1**
Corrective Actions	Emergency Response Facility/ On Scene	EMERGENCY COORDINATOR	-----
Firefighting	On Scene	Per CR3 ISFSI Fire Protection Plan	Offsite Response Organization
Rescue Operations	On Scene	---	Offsite Response Organization
First Aid	On Scene	On-Shift Personnel	---
Security	Per ISFSI Security Plan	Per ISFSI Security Plan	N/A

Note 1: For a declared emergency involving radiological consequences (E-HU1), a minimum of one person trained in radiological monitoring and assessment (Radiation Protection Coordinator) will report to the CR3 ISFSI within four hours of the emergency declaration

7.0 EMERGENCY CLASSIFICATION SYSTEM

7.1 STANDARD CLASSIFICATION OF EMERGENCIES

CR3 utilizes NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors" Rev. 6, as its basis for classifying emergencies. The classification system referenced in NEI 99-01, Rev. 6 has been endorsed by the NRC and offers a standard method for classifying emergencies. CR3 EALs are addressed in site procedures and Appendix C.

This IOEP addresses two (2) classifications of emergencies (UNUSUAL EVENT and ALERT), which represent a hierarchy of emergencies based on potential accidents that could occur at the CR3 ISFSI. Once indications are available that an EAL is met, the event is assessed and classified, and the corresponding emergency classification level is promptly declared as soon as possible.

7.1.1 Unusual Event

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the CR3 ISFSI or indicate a security threat to facility protection has been initiated. No release of radioactive material requiring off-site response or monitoring are expected. The State of Florida and the NRC are notified of an UNUSUAL EVENT.

The purpose of the UNUSUAL EVENT classification is to bring the on-shift staff to a state of readiness and to provide for systematic handling of event information and its related decision making.

7.1.2 Alert

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the CR3 ISFSI or a security event that involves probable life threatening risk to ISFSI personnel or damage to ISFSI equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA PAG exposure levels.

As in the case of the UNUSUAL EVENT, the ALERT classification includes emergency situations which are not expected to threaten the public, but for which notification of the State of Florida and the NRC is required.

7.2 EMERGENCY ACTION LEVELS AND POSTULATED ACCIDENTS

Both emergency classifications are characterized by EALs consisting of specific instrument readings and/or observations which are used to tell the CR3 ISS that an initiating condition has been met. These EALs are used to assure that the initial classification of emergencies can be accomplished rapidly, allowing for the prompt identification of the nature of mitigating activities needed.

EALs and Initiating Conditions are provided under the following categories for the CR3 ISFSI:

- ISFSI Malfunction
- Hazards and Other Conditions

The ISFSI UFSAR describes the Design Basis Accidents (DBAs) applicable to the CR3 ISFSI, along with the radiological dose calculation results. Specific guidance for classifying emergencies is found in site procedures and the Emergency Action Level Technical Bases in Appendix C

EALs shall be reviewed with State of Florida and Citrus County government authorities on an ANNUAL basis.

8.0 NOTIFICATION METHODS AND PROCEDURES

To provide prompt notification of affected personnel and emergency response organizations in the event of an emergency at the CR3 ISFSI, the licensee has established means for notification and dissemination of emergency messages.

8.1 BASIS FOR NOTIFICATION

The notification of personnel and emergency response organizations is commensurate with the hazard posed by the emergency. The EMERGENCY CLASSIFICATION SYSTEM described in Section 7.0 is the primary bases for notification and has been mutually agreed upon by applicable State and Federal response organizations.

The EC is responsible for identifying the appropriate emergency classification, declaring the emergency and initiating emergency notifications.

8.2 MEANS OF NOTIFICATION

Various communications systems, as described in Section 9.0 are available to perform emergency notifications. The EC is the primary individual for initiating notifications; however, the EC may designate an individual to carry out appropriate notifications. Implementing procedures and various directories identify organizations and individuals to be notified and contain appropriate listings of telephone numbers.

The following sections describe the means of notifying, alerting, and mobilizing the various emergency response organizations or individuals.

8.2.1 CR3 ISFSI STAFF

Following declaration of an emergency, the EC will determine if additional assistance is required and notify site or contract personnel needed to assist in assessing the emergency condition, coordinating required resources, or serving as the public information interface. Notifications to management and key personnel will be made as in accordance with established procedures. These notifications will be completed via the on-site telephone system, or other commercial means which may include land line and/or wireless devices.

8.2.2 FOSSIL/GAS PLANT PERSONNEL

Upon declaration of an emergency, the EC or a delegate will notify the Fossil/Gas Plant facilities by telephone or other available means, and an appropriate response will be initiated. The EC or a delegate will provide further instructions, as required.

8.2.3 NUCLEAR REGULATORY COMMISSION

The NRC Operations Center will be notified immediately after the notification to the State and not later than 60 minutes after declaration of an emergency via the Event Notification System (ENS) telephone line. Upon contact with the NRC, a description of the emergency is provided, along with potential consequences. Commercial phone lines will be used as a backup means of notification in the event of failure of the ENS.

8.2.4 FLORIDA STATE WATCH OFFICE (SWO)

The Florida State Watch Office (SWO) will be notified of an emergency via commercial telephone line. Upon contact, the content of the Florida Nuclear Plant Emergency Notification Form will be provided. The SWO will notify the Florida DEM and Citrus County officials of an emergency at the CR3 ISFSI.

8.2.5 SUPPORT ORGANIZATIONS

Medical, local law enforcement agency, and firefighting support services are primarily notified for assistance via the public 9-1-1 process. Requests for support services are the responsibility of the EC.

8.3 EMERGENCY MESSAGES

Notification of an emergency is provided verbally to the SWO based on the content of the Florida Emergency Notification Form. The form may also be transmitted electronically. The content of the initial notification and follow-up message form has been established in conjunction with the State of Florida and includes the date and time of the incident, the class of emergency, and the EAL. Appropriate identification of the caller and time of the notification are also provided.

As additional information describing the emergency situation and local conditions becomes available, supplemental messages containing additional detail are provided.

9.0 EMERGENCY COMMUNICATIONS

Several modes of communication are available to transmit information at the CR3 ISFSI, throughout the Crystal River Energy Complex, and to various locations off-site during normal and emergency conditions. In the event of an emergency at the CR3 ISFSI, these communications systems provide the appropriate means for alerting or activating emergency personnel in each response organization and allow continued means for contact throughout the emergency.

The various communications systems provided for both on-site and off-site communications are used on a regular basis or tested periodically in accordance with established procedures. Periodic testing or frequent use of each system is conducted as follows:

System	Use/Testing
Commercial Telephones	Frequent Use
Portable Security UHF Radios	Frequent Use
ENS	Tested Monthly

Cellular phone service is also available on site. All systems are available at the CR3 Emergency Response Facility on a 24-hour basis to allow prompt notification and activation of emergency response organizations.

10.0 PUBLIC INFORMATION

The EC will notify the ISFSI Manager following an emergency declaration. The ISFSI Manager will coordinate with Corporate Communications personnel for the dissemination of information to the media CR3.

11.0 EMERGENCY FACILITY AND EQUIPMENT

Adequate emergency facilities and equipment to support the emergency response are provided and maintained. This section of the IOEP identifies and describes the emergency response facility, assessment equipment, the first aid and medical facilities, and protective equipment and supplies that can be utilized during an emergency.

11.1 EMERGENCY RESPONSE FACILITY (ERF)

The emergency command and control functions are managed within the ERF. Within the ERF the EC (or other personnel as directed) can assess conditions, evaluate the magnitude and potential consequences of abnormal conditions, initiate preventative and corrective actions, and perform notifications. The ERF provides sufficient space to accommodate anticipated response personnel and provides availability of communication systems as specified in Section 9.0. Radiological conditions as a result of DBAs specified in the ISFSI storage system.

11.2 EMERGENCY EQUIPMENT

This section describes the monitoring instruments used to initiate emergency measures and provide continuing assessment of conditions throughout the course of an emergency.

11.2.1 PORTABLE RADIATION AND CONTAMINATION MONITORING INSTRUMENTS

CR3 maintains portable radiation and contamination monitoring equipment necessary for monitoring the conditions of the CR3 ISFSI. These instruments are normally utilized and maintained by the Radiation Protection Group and are available for emergency use.

11.2.2 COMMUNICATION SYSTEMS

Communication systems are identified and tested as described in Section 9.0.

11.3 EMERGENCY SUPPLIES

Emergency equipment and supplies necessary to carry out the provisions of the IOEP and support procedures are maintained at the Emergency Response Facility.

Emergency kit contents are inspected, inventoried, and operationally checked at least quarterly and anytime a kit is opened and used. Sufficient reserves of instruments/equipment are provided to replace those which are removed from emergency kits for calibration or repair. Calibration of instruments has been established at intervals recommended by instrument suppliers, or as required by Federal regulations.

11.4 FIRST AID FACILITIES

First aid supplies and equipment are located at the CR3 ISFSI. Qualified personnel are available 24 hours per day to provide medical treatment as referenced in Section 15.0.

Radiological wound monitoring on-site is performed using an appropriate instrument. If the severity of the wound restricts decontamination efforts by radiation protection personnel, the injured personnel will be referred to off-site medical personnel or transported to an off-site medical facility for treatment and further decontamination.

12.0 RADIOLOGICAL ASSESSMENT

Effective response to a potential emergency situation requires assessment to determine the nature of the emergency and its actual and potential consequences. The licensee has established various methods to evaluate and monitor the effects of a potential emergency at the CR3 ISFSI and has the appropriate means to assure adequate assessment.

The ASSESSMENT ACTIVITIES required to evaluate a particular emergency depend on the specific nature and classification of the emergency. The ISS/EC is responsible for the initial measurement of ISFSI dose rates after an off-normal, natural phenomena, or accident event. The EALs identify the parameter value to determine the emergency condition. Classification of events is performed by the ISS/EC in accordance with the EAL scheme.

13.0 PROTECTIVE ACTIONS

Protective actions for onsite personnel are provided for their health and safety. Implementation guidelines for onsite protective actions are provided in implementing procedures.

Additionally, implementing procedures provide for a range of protective actions (e.g. relocation of personnel and personnel take cover) to protect onsite personnel during HOSTILE ACTIONS.

13.1 CR3 ISFSI ACCOUNTABILTY

The EC has the authority to initiate personnel ACCOUNTABILITY of the CR3 ISFSI.

ACCOUNTABILTY should be considered and used as a protective action whenever a risk to health or safety exists and prudence dictates. If personnel ACCOUNTABILITY is required, at the direction of the EC, all individuals in the PROTECTED AREA (including employees without emergency assignments, visitors and contractor personnel) shall be notified of the emergency.

ACOUNTABILITY of all personnel inside the PROTECTED AREA should be accomplished within 60 minutes after event classification and maintained thereafter at the discretion of the EC. If personnel are unaccounted for, teams shall be dispatched to locate the personnel.

13.2 CRYSTAL RIVER ENERGY COMPLEX ACCOUNTABILITY

Assembly/Relocation of personnel in areas outside of the Protected Area in the Crystal River Energy Complex will be in accordance with established procedures. The EC is authorized to control access to the CONTROLLED AREA when the IOEP is activated.

14.0 RADIOLOGICAL EXPOSURE CONTROL

CR3 maintains a radiological exposure control program to assure that protection against radiological exposure, as set forth in 10 CFR Part 20 and Chapter 170J 1 of the State of Florida Statutes, is provided. This program is implemented through the "Radiological Protection Standard" which covers both normal and emergency radiation protection measures.

Means for controlling radiological exposures in an emergency are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

14.1 EXPOSURE GUIDELINES

During an emergency, doses above normal occupational radiation exposure limits may be authorized by the EC for activities such as saving a life, preservation of valuable equipment, or controlling exposure. Table 14.1 provides exposure guidelines for on-site emergency activities.

14.2 RADIATION PROTECTION

The purpose of a Radiation Protection Program is to assure that radiation doses received by personnel are kept as low as reasonably achievable and do not exceed the prescribed limits for both normal and emergency conditions. The established measures to provide this assurance include access control, personnel monitoring, and contamination control.

14.2.1 ACCESS CONTROL

During a declared emergency, radiological surveys of the ISFSI pad area will be performed to determine the actual extent of the radiological concern. As necessary, the EC will ensure RCAs and access controls are established to prevent personnel from entering the area. RECOVERY and corrective actions will be planned and executed in a manner that minimizes exposure to personnel.

14.2.2 PERSONNEL EXPOSURE MONITORING

Personal dosimeters are utilized to monitor the exposure of personnel during normal or emergency conditions. Adequate supplies of dosimeters are maintained for use during an emergency. Procedures describe in detail the types of personal dosimeter devices, the manner in which they are to be used, who is to wear them, and how they are to be cared for.

Emergency worker dose records are maintained in accordance with Radiation Protection procedures.

14.3 CONTAMINATION CONTROL

Various contamination control measures are utilized. These include access control measures and means for the decontamination of personnel, areas, and equipment. These activities are addressed in facility procedures and are briefly described below.

All personnel are monitored for radioactive contamination prior to leaving the site. During normal or emergency conditions, contamination should be removed from any part of a person's body prior to their leaving the RCA. All personnel decontamination, even during an emergency, will be performed under the supervision of the Radiation Protection Group and in accordance with established procedures.

Portable contamination monitoring instruments are available to frisk personnel for potential contamination.

Documentation of surveys, contamination, and decontamination activities shall be maintained in accordance with Radiation Protection procedures.

TABLE 14.1

GUIDELINES FOR EMERGENCY RESPONSE WORKER EXPOSURE

ACTIVITY	GUIDELINE	CONDITION
All occupational exposures	5 rem	All reasonably achievable actions have been taken to minimize dose.
Protecting valuable property necessary for public welfare.	10 rem [a]	Exceeding 5 rem unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
Lifesaving or protection of large populations	25 rem [b]	Exceeding 5 rem unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.

Notes: a For potential doses >5 rem, medical monitoring programs should be considered.

b In the case of a very large incident, consider need to raise property and lifesaving response worker guidelines.

NOTE: Reference for this table is Table 2-2 in the EPA PAG Manual.

NOTE: The dose limits listed above are in addition to any annual occupational dose already received.

15.0 MEDICAL AND HEALTH SUPPORT

Medical assistance is available on-site and off-site for treatment of CR3 ISFSI personnel. Various means of transportation are also available to transport individuals for radiological and non-radiological injuries.

The individuals and organizations providing emergency medical assistance as identified in this section either have the capability for evaluation of radiation exposure and uptake or they are provided this capability from the licensee in the form of personnel and/or equipment Letters of Agreement with off-site organizations and individuals for medical support are listed in Appendix B.

15.1 ON-SITE FIRST AID

First aid assistance at the CR3 ISFSI is designed to handle a wide range of injuries. This task is accomplished by medical response personnel. The medical response personnel are on-site individuals trained in basic first aid procedures. Medical response personnel are trained to handle injured personnel, with or without radiological considerations.

15.2 MEDICAL TRANSPORTATION

Transportation of injured personnel is available via local emergency medical services, other CR3 vehicles, or private vehicles. When personnel are transported to Bayfront Health Seven Rivers hospital while in a contaminated condition, a person trained in radiological monitoring will be dispatched to monitor and maintain radiological controls.

15.3 OFF-SITE MEDICAL SUPPORT

The Bayfront Health Seven Rivers hospital in Crystal River, Florida has medical facilities capable of handling various types of injuries. Bayfront Health Seven Rivers hospital is capable of treating patients with injuries of a non-radiological or radiological nature.

When local facilities are considered inadequate because of the nature or severity of the injury sustained, the injured person may be referred to a trauma center in Florida or to Oak Ridge, Tennessee - REAC/TS for hospitalization. Oak Ridge Associated Universities (ORAU) operates a research hospital in Oak Ridge, Tennessee for the U.S. Department of Energy.

16.0 EMERGENCY TERMINATION AND RECOVERY

The licensee has established general plans described in the following sections to yield RECOVERY from potential emergencies at the CR3 ISFSI. The recovery organization will be based on the normal organization and would function with the senior management position being responsible for site activities.

16.1 EMERGENCY TERMINATION AND NOTIFICATION

Termination of an emergency status is the responsibility of the EC. The EC is also responsible for providing notification of the emergency termination and initiation of RECOVERY operations to the NRC, State of Florida (SWO), the CR3 ERO, and other organizations that may be providing on-site support.

16.2 RECOVERY OPERATIONS

RECOVERY operations begin immediately following emergency termination and will address the specific emergency circumstances.

RECOVERY planning includes equipment to be repaired or replaced, licensing implications, special training requirements, offsite support, and determination of causes and consequences. Site procedures addressing RECOVERY operations provide an outline for a short term RECOVERY plan.

The ISFSI Manager shall be responsible for the development and implementation of the RECOVERY plan and shall provide for detailed monitoring of the implementation and status reporting. The ISFSI Manager also has the authority to revise or halt activities as circumstances dictate.

The RECOVERY will be terminated by the CR3 senior management position after the ISFSI is returned to a stable condition.

17.0 EXERCISE AND DRILLS

Periodic exercises are conducted to evaluate major portions of emergency response capabilities. Periodic drills are conducted to develop and maintain key skills. Deficiencies as a result of exercises or drills are identified and corrected.

17.1 BIENNIAL EXERCISE

A Biennial Exercise is conducted and tests the capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. Offsite response organizations will be invited to participate or observe.

Exercise scenarios will include, at a minimum, the following:

- Basic objective(s) of the exercise.
- Date(s), time period, place(s), and participating organizations.
- A time schedule of real and simulated initiating events.
- A narrative summary describing the conduct of the drill to include such items as simulated casualties, offsite fire assistance, rescue of personnel, and use of protective clothing.

A remedial exercise will be conducted if it is determined that the emergency plan was not satisfactorily tested during the biennial exercise such that the NRC cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency.

17.2 TRAINING DRILLS

In addition to the training described earlier, the ISFSI staff will conduct drills to enhance skills and knowledge of the practical implementation of the Emergency plan and demonstrate the adequacy of emergency facilities, equipment, and implementing procedures. Drills allow interaction between evaluators and ERO personnel to reinforce requirements and overall process implementation. Drills will be scheduled with various objectives to demonstrate these capabilities. Some drills will focus on specific functions while others will involve a broader scope of the Emergency Plan. Offsite support organizations (e.g., ambulance service, fire department, and LLEA) may be invited to participate in drills. Problems should be noted for discussion as part of the training drill critique. Required drills shall be conducted at the FREQUENCY indicated below:

a. Medical Emergency Drills

- ANNUAL - This drill will involve medical response personnel and include a simulated contaminated individual and may also allow provisions for participation by local support agencies (i.e., ambulance and off-site medical facilities). The off-site portions of the drill may be performed as part of the Biennial Exercise.

b. Radiological Monitoring

- ANNUAL - A drill involving radiation monitoring personnel to demonstrate ability to perform radiological survey and assessment.

c. Communication Checks

- Semi-Annual – Communication Capability between CR3 ISFSI and the Florida State Watch Office (SWO) shall be demonstrated.

Drill requirements may be satisfied as part of the Biennial Exercise. A critique shall be conducted as soon as practical after each drill or exercise. The critique shall evaluate the ability of the organization to respond to a simulated emergency situation.

17.3 CRITIQUES

A critique is performed as soon as practicable after training drills and exercises to evaluate the ability of the participating organizations to respond as indicated in this IOEP. Recommendations for revisions to the CR3 IOEP, the implementing procedures and/or the upgrading of emergency equipment and supplies as a result of the drill or exercise should be forwarded to the Emergency Planning Coordinator who shall review, coordinate, and assure that appropriate changes are implemented to correct any deficiencies. A written evaluation shall result from the critique of the Biennial Exercise. The ISFSI Manager shall assure that identified deficiencies are corrected.

18.0 EMERGENCY RESPONSE ORGANIZATION TRAINING

Radiological emergency response training is provided to those who may be called on to assist in an emergency. All personnel at the CR3 ISFSI who fill required positions in the ERO will take part in a training program to assure adequate preparedness to assist in an emergency situation. Specific off-site support resources that may be called upon for emergency assistance will also be invited to participate in appropriate training programs. Emergency response personnel in the following categories receive initial training and ANNUAL retraining:

18.1 ISFSI SHIFT SUPERVISORS/EMERGENCY COORDINATORS

These following subjects shall be covered as a minimum on an ANNUAL basis:

- EMERGENCY ACTION LEVEL Classification.
- Federal, State and local government notification procedures.
- ERO Implementation.
- Dose rate meter operation.
- Radiological assessment.
- Emergency exposure control.
- Protective actions for onsite personnel.
- ISFSI Design Basis Accidents.
- Review of applicable drill identified deficiencies and recommendations.

18.2 MEDICAL RESPONSE PERSONNEL

All onsite medical response personnel are provided training. Training for personnel assigned to provide first aid support shall include courses equivalent to Red Cross Multi-Media.

18.3 RADIATION MONITORING PERSONNEL

Initial and ANNUAL retraining for radiation monitoring personnel consists of the following topics:

- Use of Radiation Protection procedures.
- Use of emergency survey equipment.
- Communications.
- Field surveys.
- Radiological Monitoring.
- Review of applicable drill identified deficiencies and recommendations

18.4 OFFSITE LAW ENFORCEMENT AND MEDICAL SUPPORT PERSONNEL

Organizations which may be called upon to render assistance on-site will be offered general facility familiarization sessions on an annual basis. The sessions may include a walk down of the facility, building layout, access protocol, communications capabilities, and security requirements. The training will be structured to meet the needs of the respective organization with respect to the nature of their support.

19.0 RESPONSIBILITY FOR THE PLANNING EFFORT: DEVELOPMENT, PERIODIC REVIEW AND DISTRIBUTION OF EMERGENCY PLANS

19.1 EMERGENCY PLANNING COORDINATION

The ISFSI Manager has overall authority and responsibility for emergency response planning. The CR3 ISFSI Emergency Planning Coordinator develops and updates emergency plans and coordinates these plans with other response organizations. In the event that licensing actions by the NRC or changes in the State agencies or other off-site resources impact this Plan, the Emergency Planning Coordinator is responsible for identifying the particular impact and necessary revisions to the Plan. The Emergency Planning Coordinator reports to the ISFSI Manager.

The Emergency Planning Coordinator training will consist of periodic reviews of Federal emergency preparedness requirements and guidance documents and various site-specific documents related to emergency preparedness. Training is supplemented primarily by on-the-job activities and attendance of short courses, seminars, or executive conferences that relate specifically to emergency preparedness.

19.2 PLAN/PROCEDURES REVIEW AND UPDATE

The CR3 IOEP should be reviewed and verified to be current on an ANNUAL basis by the Emergency Planning Coordinator. Revisions to the CR3 IOEP will be reviewed in accordance with 10 CFR 50.54(q) requirements.

Procedures listed in Appendix A shall be reviewed and verified to be current by the appropriate individual in accordance with established procedures. These procedures will be updated as appropriate and will consider improvements identified during drills and training.

19.2 PLAN/PROCEDURES REVIEW AND UPDATE (Continued)

In addition, there shall be a semi-annual review and update of the notification rosters used to activate and implement the Plan.

Review of the CR3 IOEP and the plans of support organizations shall consider applicable emergency planning criteria and regulations promulgated by the NRC, as applicable to the CR3 ISFSI.

In addition to the above reviews and updates, the Emergency Planning Coordinator shall review and update appropriate support agreements (see Appendix B) as required.

19.3 TRAINING

The Emergency Planning Coordinator shall assist management in coordinating and/or providing emergency planning-related training. They shall assure that the training described in Section 18.0, is properly coordinated to assure adequate qualification, training, and retraining of personnel.

19.4 AUDITS

All Emergency Plan program elements shall be reviewed by persons having no direct responsibility for the implementation of the Emergency Plan at least once every 12 months to satisfy the requirements of 10 CFR 50.54(t).

An independent audit covering all program elements satisfies this requirement.

ISFSI ONLY EMERGENCY PLAN

APPENDIX A

CROSS REFERENCE IOEP SECTION TO PLANNING STANDARDS/REQUIREMENTS AND IMPLEMENTING PROCEDURES

APPENDIX A

CROSS REFERENCE IOEP SECTION TO PLANNING STANDARDS/REQUIREMENTS AND IMPLEMENTING PROCEDURES

Regulatory Requirement	Corresponding IOEP Section(s)	Procedure
10 CFR 50.47(b)(1)	5.0	Not Applicable (N/A)
10 CFR 50.47(b)(2)	6.0	EM-502, ISFS-190
10 CFR 50.47(b)(3)	5.0, , Appendix B	AI-4000
10 CFR 50.47(b)(4)	7.0	IOEP App. C
10 CFR 50.47(b)(5)	8.0	EM-205, EM-502
10 CFR 50.47(b)(6)	9.0	AI-4000
10 CFR 50.47(b)(7)	10.0	EM-502
10 CFR 50.47(b)(8)	11.0	AI-4000
10 CFR 50.47(b)(9)	12.0	EM-502, ISFS-190
10 CFR 50.47(b)(10)	13.0	EM-205
10 CFR 50.47(b)(11)	14.0	EM-502, EM-504, HPP-334
10 CFR 50.47(b)(12)	15.0	AI-4000
10 CFR 50.47(b)(13)	16.0	EM-502
10 CFR 50.47(b)(14)	17.0	AI-4000, AI-4001
10 CFR 50.47(b)(15)	18.0	TPP-219
10 CFR 50.47(b)(16)	19.0	AI-4000
10 CFR 50.47(c)(2)	2.1	N/A
10 CFR Part 50, Appendix E IV		
10 CFR Part 50, Appendix E IV.A	5.0, 6.0, 7.0	EM-502, AI-4000
10 CFR Part 50, Appendix E IV.B	7.0, 12.0	IOEP, App.C
10 CFR Part 50, Appendix E IV.C	7.0, 8.0	EM-502
10 CFR Part 50, Appendix E IV.D	8.0, 9.0	EM-502
10 CFR Part 50, Appendix E IV.E	11.0	N/A
10 CFR Part 50, Appendix E IV.F	17.0, 18.0	TPP-219
10 CFR Part 50, Appendix E IV.G	19.0	AI-4000
10 CFR Part 50, Appendix E IV.H	16.0	EM-502
10 CFR Part 50, Appendix E IV.I	13.0	EM-911D
10 CFR Part 50, Appendix E V	Appendix A	N/A
10 CFR Part 50, Appendix E VI	Not Applicable	N/A

.

ISFSI ONLY EMERGENCY PLAN

APPENDIX B

AGREEMENTS WITH SUPPORTING ORGANIZATIONS

AGREEMENTS WITH SUPPORTING ORGANIZATIONS

The following agreements are reviewed on an ANNUAL basis and updated as necessary. The documents are kept on file at CR3 and maintained by the Emergency Planning Group.

1. Citrus County (Law Enforcement and Fire response)
2. Bayfront Health Seven Rivers Hospital
3. Nature Coast EMS

ISFSI ONLY EMERGENCY PLAN

APPENDIX C

EMERGENCY ACTION LEVEL TECHNICAL BASES

EMERGENCY ACTION LEVEL TECHNICAL BASES

1.0 PURPOSE

This manual provides an explanation and rationale for each EMERGENCY ACTION LEVEL (EAL) included in the Independent Spent Fuel Storage Installation (ISFSI) Only EAL scheme for the CR3 ISFSI facility. The information provided should be used to facilitate reviews of EALs and provide documentation for future reference. Decision-makers performing the duties of the Emergency Coordinator (EC) may use the information included in this document as a technical reference in support of an EAL interpretation. Any revisions must be carefully considered for Emergency Plan impact by evaluating changes in accordance with 10 CFR 50.54(q).

2.0 REFERENCES

1. NEI 99-01, Revision 6, November 2012, Development of Emergency Action Levels for Non-Passive Reactors Section 8, Independent Spent Fuel Storage Installation (ISFSI) ICs/EALs.

2. Independent Spent Fuel Storage Installation (ISFSI) Only Emergency Plan (IOEP)

3. NEI 03-12, Template for Security Plan, Training and Qualification, Safeguards Contingency Plan, and ISFSI Security Program.

EMERGENCY ACTION LEVEL TECHNICAL BASES

3.0 Table A-1: Recognition Category "PD" and "E" Initiating Condition Matrix

UNUSUAL EVENT	ALERT
PD-HU1: Confirmed SECURITY CONDITION or threat.	**PD-HA1:** HOSTILE ACTION is occurring or has occurred.
PD-HU3: Other conditions exists which in the judgment of the Emergency Coordinator warrant declaration of an UNUSUAL EVENT (UE).	**PD-HA3**: Other conditions exists which in the judgment of the Emergency Coordinator warrant declaration of an ALERT.
E-HU1: Damage to a Dry Shielded Canister CONFINEMENT BOUNDARY	

4.0 Hazards and Other Conditions

PD-HU1

ECL: Unusual Event

Initiating Condition: Confirmed SECURITY CONDITION or threat.

Emergency Action Levels: (1 or 2)

UNUSUAL EVENT
1. Confirmed SECURITY CONDITION or threat. 1) A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the Security Shift Supervisor. **OR** 2) Notification of a CREDIBLE SECURITY THREAT directed at the site.

SECURITY CONDITION: Any security event as listed in the approved security contingency plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the CR3 ISFSI. A SECURITY CONDITION does not involve a HOSTILE ACTION.

HOSTILE ACTION: An act toward the CR3 ISFSI or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the CR3 ISFSI. Non-terrorism-based EALs should be used to address such activities (i.e., this may include violent acts between individuals in the CONTROLLED AREA).

PD-HU1

Basis:

This IC addresses events that pose a threat to plant personnel or spent fuel and thus represent a potential degradation in the level of plant safety. Security events which do not meet one of these EALs are adequately addressed by the requirements of 10 CFR § 73.71 or 10 CFR § 50.72. Security events assessed as HOSTILE ACTIONS are classifiable under IC PD-HA1.

Timely and accurate communications between Security Shift Supervision and the ISFSI Shift Supervisor/Emergency Coordinator are essential for proper classification of a security-related event. Classification of these events will initiate appropriate threat-related notifications to plant personnel and Off Site Response Organizations.

Security plans and terminology are based on the guidance provided by NEI 03-12, *Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program].*

EAL #1 references the Security Shift Supervisor because these are the individuals trained to confirm that a security event is occurring or has occurred. Training on security event confirmation and classification is controlled due to the nature of Safeguards and 10 CFR § 2.390 information.

EAL #2 addresses the receipt of a CREDIBLE SECURITY THREAT. The credibility of the threat is assessed in accordance with Security procedures.

Emergency plans and implementing procedures are public documents; therefore, EALs should not incorporate Security-sensitive information. This includes information that may be advantageous to a potential adversary, such as the particulars concerning a specific threat or threat location. Security-sensitive information should be contained in non-public documents such as the Security Plan.

Escalation of the emergency classification level would be via Initiating Condition PD-HA1.

EMERGENCY ACTION LEVEL TECHNICAL BASES

4.0 Hazards and Other Conditions (cont.)

PD-HA1

ECL: Alert

Initiating Condition: HOSTILE ACTION is occurring or has occurred.

Emergency Action Levels:

ALERT
1. HOSTILE ACTION is occurring or has occurred as reported by the Security Shift Supervisor.

HOSTILE ACTION: An act toward the CR3 ISFSI or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the CR3 ISFSI. Non-terrorism-based EALs should be used to address such activities (i.e., this may include violent acts between individuals in the CONTROLLED AREA).

4.0 Hazards and Other Conditions (cont.)

PD-HA1

Basis:

This IC addresses the occurrence of a HOSTILE ACTION.

Timely and accurate communications between Security Shift Supervision and the ISFSI Shift Supervisor/Emergency Coordinator are essential for proper classification of a security-related event.

As time and conditions allow, these events require a heightened state of readiness by the plant staff and implementation of onsite protective measures (e.g., evacuation or sheltering). The ALERT declaration will also heighten the awareness of Offsite Response Organizations, allowing them to be better prepared should it be necessary to consider further actions.

This IC does not apply to incidents that are accidental events, acts of civil disobedience, or otherwise are not a HOSTILE ACTION perpetrated by a HOSTILE FORCE. Examples include the crash of a small aircraft, shots from hunters, physical disputes between employees, etc. Reporting of these types of events is adequately addressed by other EALs, or the requirements of 10 CFR § 73.71 or 10 CFR § 50.72.

Emergency plans and implementing procedures are public documents; therefore, EALs should not incorporate Security-sensitive information. This includes information that may be advantageous to a potential adversary, such as the particulars concerning a specific threat or threat location. Security-sensitive information should be contained in non-public documents such as the Security Plan.

4.0 Hazards and Other Conditions (cont.)

PD-HU3

ECL: Unusual Event

Initiating Condition: Other conditions exist which in the judgment of the Emergency Coordinator warrant declaration of an UNUSUAL EVENT (UE).

Emergency Action Levels:

UNUSUAL EVENT
1) Other conditions exist which in the judgment of the Emergency Coordinator indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the ISFSI or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

Basis:

This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator to fall under the emergency classification level description for a UE.

4.0 Hazards and Other Conditions (cont.)

PD-HA3

ECL: Alert

Initiating Condition: Other conditions exist which in the judgment of the Emergency Coordinator warrant declaration of an ALERT.

Emergency Action Levels:

ALERT
1) Other conditions exist which in the judgment of the Emergency Coordinator indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the ISFSI or a security event that involves probable life threatening risk to site personnel or damage to ISFSI equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Basis:

This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator to fall under the emergency classification level description for an ALERT.

EMERGENCY ACTION LEVEL TECHNICAL BASES

5.0 ISFSI Malfunction

E-HU1

ECL: Unusual Event

Initiating Condition: Damage to a Dry Shielded Canister **CONFINEMENT BOUNDARY.**

UNUSUAL EVENT
Damage to a Dry Shielded Canister CONFINEMENT BOUNDARY as indicated by radiation readings greater than or equal to the following: 1) 1300 mR/hr (gamma +neutron) on the radial surface of the fuel transfer cask while in transit to the ISFSI Horizontal Storage Module (HSM). OR 2) 1050 mR/hr (gamma + neutron) on the HSM Front Bird Screen while stored in the HSM. OR 3) 4 mR/hr (gamma + neutron) HSM Outside Door while stored in the HSM. OR 4) 40 mR/hr (gamma + neutron) HSM End Shield Wall Exterior while stored in the HSM. **NOTE**: Radiation readings are taken at the locations prescribed by the Technical Specifications for the Standardized NUHOMS Horizontal Storage.

Emergency Action Levels: (1 or 2 or 3 or 4)

Mode Applicability: All

CONFINEMENT BOUNDARY: The barrier(s) between spent fuel and the environment once the spent fuel is processed for dry storage. As applied to the CR3 ISFSI, the **CONFINEMENT BOUNDARY** is the Dry Shielded Canister (DSC) consisting of the DSC shell, the inner top and inner bottom cover plates, the siphon and vent block, the siphon and vent port cover plates, and the associated welds.

5.0 ISFSI Malfunction (cont.)

E-HU1

Basis:

This IC addresses an event that results in damage to the CONFINEMENT BOUNDARY of a dry shielded canister containing spent fuel. It applies to irradiated fuel that is licensed for dry storage beginning at the point that the loaded storage canister is sealed. The issues of concern are the creation of a potential or actual release path to the environment, degradation of one or more fuel assemblies due to environmental factors, and configuration changes which could cause challenges in removing the canister or fuel from storage.

The existence of “damage” is determined by radiological survey. NEI 99-01, Revision 6, November 2012, Development of Emergency Action Levels for Non-Passive Reactors, Section 8, Independent Spent Fuel Storage Installation (ISFSI) ICs/EALs recommends using “2 times” the site-specific cask specific technical specification allowable radiation level as the EAL. The technical specification multiple of “2 times” is used here to distinguish between non-emergency and emergency conditions. The emphasis for this classification is the degradation in the level of safety of the spent fuel dry shielded canister and not the magnitude of the associated dose or dose rate. It is recognized that in the case of extreme damage to a loaded canister, the fact that the “on-contact” dose rate limit is exceeded may be determined based on measurement of a dose rate at some distance from the canister.

Security-related events for ISFSIs are covered under ICs PD-HU1 and PD-HA1.

An UNUSUAL EVENT in this EAL is categorized on the basis of the occurrence of an event of sufficient magnitude that a loaded Dry Shielded Canister (DSC) CONFINEMENT BOUNDARY is damaged or violated while in transit or storage.

This EAL applies to emergency conditions affecting a spent fuel DSC caused by an accident or natural phenomena. This EAL would be applicable at all times in all modes for a loaded DSC from the time the lid is installed, during transport to the INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) and while stored in the Horizontal Storage Module (HSM).

5.0 ISFSI Malfunction (cont.)

E-HU1

As provided in the Transnuclear “Standardized NUHOMS System Technical Specifications”, Section 5.2.4 (Radiation Protection Program) and Section 5.4.2 (HSM or HSM-H Dose Rate Evaluation Program) contain radiation dose levels for the DSC that should not be exceeded based on whether the DSC is being transported inside the fuel transfer cask or while it is stored in the HSM. Keeping in line with NEI guidance that a UNUSAL EVENT warranted for radiation conditions at a level of twice the Technical Specification value, the values chosen for EAL E-HU1 represent these values. The “Note” in the EAL provides guidance on where the radiation readings are to be taken when evaluating this EAL.

EMERGENCY ACTION LEVEL TECHNICAL BASES

6.0 EMERGENCY CLASSIFICATION TABLE INDEX

HAZARDS AND OTHER CONDITIONS		
CATEGORY (H)	**UNUSUAL EVENT (U)**	**ALERT (A)**
SECURITY	**HU1**	**HA1**
Hazards and Other Conditions/ Emergency Coordinator Judgment	**HU3**	**HA3**
ISFSI MALFUNCTION		
CATEGORY (E)	**UNUSUAL EVENT (U)**	**ALERT (A)**
ISFSI Malfunction	**HU1**	Not Applicable

EMERGENCY ACTION LEVEL TECHNICAL BASES

6.1 MODE: Permanently Defueled (PD)

CATEGORY	UNUSUAL EVENT (HU1)	ALERT (HA1)
Hazards And Other Conditions **(H)**	**1**. Confirmed SECURITY CONDITION or threat. 1) A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the Security Shift Supervisor. **OR** 2) Notification of a CREDIBLE SECURITY THREAT directed at the site.	1. HOSTILE ACTION is occurring or has occurred as reported by the Security Shift Supervisor.

EMERGENCY ACTION LEVEL TECHNICAL BASES

6.2 MODE: Permanently Defueled (PD)

CATEGORY	UNUSUAL EVENT (HU3)	ALERT (HA3)
Hazards And Other Conditions **(H)**	**1.** Other conditions exist which in the judgment of the Emergency Coordinator warrant declaration of a UE. 1) Other conditions exists which in the judgment of the Emergency Coordinator indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the ISFSI or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.	**1.** Other conditions exist which in the judgment of the Emergency Coordinator warrant declaration of an ALERT. 1) Other conditions exists which in the judgment of the Emergency Coordinator indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the ISFSI or a security event that involves probable life threatening risk to site personnel or damage to ISFSI equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

EMERGENCY ACTION LEVEL TECHNICAL BASES

6.3 Independent Spent Fuel Storage Installation (ISFSI)

MODE: All (E)

CATEGORY	UNUSUAL EVENT (HU1)	ALERT (HA1)
ISFSI Malfunction **(E)**	Damage to a Dry Shielded Canister CONFINEMENT BOUNDARY as indicated by radiation readings greater than or equal to the following: 1300 mR/hr (gamma +neutron) on the radial surface of the fuel transfer cask while in transit to the ISFSI Horizontal Storage Module (HSM). **OR** 1050 mR/hr (gamma + neutron) on the HSM Front Bird Screen while stored in the HSM. **OR** 4 mR/hr (gamma + neutron) HSM Outside Door while stored in the HSM. **OR** 40 mR/hr (gamma + neutron) HSM End Shield Wall Exterior while stored in the HSM. **NOTE:** Radiation readings are taken at the locations prescribed by the Technical Specifications for the Standardized NUHOMS Horizontal Storage System.	**Not Applicable**

SUMMARY OF CHANGES

DRR-

SECTION	CHANGE	REASON/REFERENCE
Cover	Remove Duke Energy LOGO and change title in signature line.	Editorial – corrected for new company and new title.
Throughout	Corrected number sequences to address changes/deletions and title changes.	Editorial
TOC	Revised to reflect plan content changes	Editorial
Section 1.2	Added reference to 10 CFR 72.32 and updated the plan revision history.	Editorial and referenced 10 CFR 72.32 (LAR 3F0321-01)
Section 2.1	Revised text regarding offsite response information; added reference to 10 CFR 72.32.	To Address LAR 3F0321-01
Section 3.0	Added reference to 10 CFR 72.32	Editorial
Section 4.1	Added definitions for Confinement Boundary, Credible Security Threat, and Security Condition	Added due to EAL Technical Bases begin added to IOEP as App. C. (LAR 3F0321-01)
Section 4.1	Removed definitions of, Fire, Protective Actions, and Release.	To address LAR 3F0321-01
Section 4.2	Removed State Hot Ring Down (SHRD) abbreviation	SHRD no longer used as primary notification. (LAR 3F0321-01)
Section 5.1	Revised/corrected titles. Deleted reference to ISFSI Manager – Operations and Maintenance	Editorial
Section 5.2	Deleted reference to Resource Manager	Position eliminated (LAR 3F0321-01)
Section 5.3.1	Simplified text from description of Florida Watch Office	Unnecessary detail or no longer applies to state response.
N/A	Deleted Florida Division of Emergency Management Section (combined with later section)	Combined this section with federal response in later section.
Section 5.3.2	Revised section to delete reference to county emergency management from Sheriff's Office and added "and fire".	County emergency management is no longer directly involved with emergency response related to CR3. Added "and fire" to clarify that fire response is accomplished by dialing 911.
Section 5.3.3	Revised description of Bayfront Hospital	Unnecessary detail and was no longer applicable to CR3 response.
Section 5.3.4	Simplified text from the description of local EMS	Unnecessary detail and no longer applicable to CR3 response.
Section 5.3.5	Combined NRC Federal response with State response	Simplifying text since response is now limited to notifications

SECTION	CHANGE	REASON/REFERENCE
Section 5.4	Revised wording related to letters of agreements	Simplify text to better capture agreement letters.
Section 6.1, 6.1.1	Revised position title and revise “site” to “ISFSI” Deleted reference to Resource Manager. Added statement that EC authorization for notifications cannot be delegated.	Editorial change. Resource Manager position eliminated. (LAR 3F0321-01)
Section 6.2	Added text to address activating support personnel	To clarify the EC can request support as needed.
N/A	Deleted reference to Resource Manger	Position eliminated (LAR 3F0321-01)
Section 6.2.1	Revised Title	Editorial
Section 6.2.4	Revised “Corporate” to “Company Support” and deleted text.	Editorial
Table 6.1	Removed reference to Resource Manager Specified “Radiation Protection Coordinator” as a responder and clarified text.	Position eliminated (LAR 3F0321-01) and editorial change
N/A	Deleted Section related to Emergency Response Organizations Support	Unnecessary/repetitive information.
Section 7.2	Revised reference location for the EAL Technical Bases	Editorial – the EAL Bases Document is now located as an appendix to the IOEP.
Section 8.2.1	Removed reference to Resource Manager	Position eliminated (LAR 3F0321-01)
Section 8.2.2	Changed “Hydro” to “Gas Plant”	Editorial
Section 8.2.3	Added notification requirement for NRC	Enhanced wording to address notification requirement for NRC.
Section 8.2.4	Revised text for Florida State Watch Office related to SHRD	SHRD is no longer required, commercial phones are used for notifications (LAR 3F0321-01)
Section 9.0	Deleted reference to SHRD, clarified the radios as “security” radios, and added that cell phone service is available on site.	SHRD no longer used as primary notification. (LAR 3F0321-01) and addressed cell phone service on site.
Section 10.0	Revised Public Information Section	Addressed current PI protocol for new company.
Section 11.1	Deleted reference to USFARS	Statement unnecessary, removal does not change intent.
Section 11.3	Deleted reference to Table 12 listing typical emergency supplies	Table 12.1 eliminated. Contents of the kits are verified using plant procedures.

SECTION	CHANGE	REASON/REFERENCE
Section 12.0	Revised Accident Assessment information and changed to “Radiological Assessment” and updated text.	Address current protocol for assessing ISFSI radiological conditions.
Section 13.1	Revised Accountability section	Clarify that accountability is the ISFSI Protected Area and removed unnecessary information.
Section 13.2	Revised wording related to the Crystal River Emergency Complex and clarified authority of the EC to control access to the Controlled Area.	Clarified that accountability for all areas outside of the protected area is completed in accordance with procedures.
Section 15.0	Revised Text to delete training information.	Eliminated repetitive information.
Section 15.3	Revised text to delete specific medical information	The additional medical was unnecessary.
Section 16.2	Organization/Title Change	Editorial
Section 17.1	Revised section to separate drill information from exercise information.	Clarify drill conduct versus exercise conduct and to improve description.
Section 17.2	Revised training drill section to describe/clarify the conduct and type of drills. Communication “drill” was revised to state Communication “Check;” Staff Augmentation Drill was deleted.	Enhanced description of drills and deleted drills that were carried over from operational E-Plan per guidance in 10 CFR 72.32. (LAR 3F0321-01)
Section 17.3	Title Change	Editorial
Section 18.1 thru 18.4	Revised training description for Emergency Coordinator, medical response personnel, radiation monitoring personnel, and offsite law enforcement and medical response. Changed “Human Conformance Concerns” to “Recommendations.”	Updated training description to better describe training program for the emergency coordinator qualified individuals, rad monitoring personnel, and offsite medical and law enforcement personnel to correct and clarify current training programs.
Section 19.1	Title change	Editorial
Section 19.2	Removed reference to implementing procedures.	Not all implementing procedure changes require a 50.54(q) review when changing.
Section 19.2	Revised the frequency of phone number updates to semi-annual and removed reference to support plans.	To be consistent with regulatory guidance described in 10 CFR 72.32. Deleted support plans are no longer applicable to CR3 ISFSI. SHRD no longer used as primary notification. (LAR 3F0321-01)
Section 19.4	Revised text regarding audits.	Text updated to reflect new company.
App. A	Updated Section Numbers and Addressed EAL Bases Document being moved into the IOEP as an Appendix.	Editorial

SECTION	CHANGE	REASON/REFERENCE
App. B	Added (Law Enforcement and Fire response) to Citrus County and removed the words “Sheriff’s Office”	To clarify that Fire and Law Enforcement response is accomplished via 911.
App. C	Incorporated IOEP EALBM into the IOEP as Appendix C. Revised all of EAL Technical Bases.	The IOEP EALBM was relocated into the IOEP.