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Duane Arnold Energy Center

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Duane Arnold Energy Center
Docket 50-331
License No. DPR-49

Reply to a Notice of Violation; EA-07-017

This letter and enclosure are provided in response to the Notice of Violation (NOV) transmitted in Final Significance Determination for a White Finding and Notice of Violation; NRC Inspection Report No. 05000331/2007501(DRS) For Duane Arnold Energy Center; EA-07-017, dated April 2, 2007.

If you have any questions, please call Steve Catron, Licensing Manager, at (319) 851-7234.

This letter contains no new commitments and no revisions to existing commitments.

A handwritten signature in cursive script that reads "Gary Van Middlesworth".

Gary Van Middlesworth
Site Vice President, Duane Arnold Energy Center
FPL Energy Duane Arnold, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, DAEC, USNRC
Resident Inspector, DAEC, USNRC
Enforcement Officer, Region III, USNRC

IE01

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FPL Energy Duane Arnold
Reply to Notice of Violation; EA-07-017

VIOLATION:

During an NRC inspection conducted from October 16, 2006, through December 5, 2006, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of CFR Part 50.54(q) requires, in part, that a licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b).

Title 10 of CFR Part 50.47(b)(4) requires, in part, that a standard emergency classification and action level scheme is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by the facility licensee for determinations of minimum initial offsite response measures.

Duane Arnold Emergency Plan, Section D, Revision 25 and Emergency Plan Implementing Procedure (EPIP) Manual Appendix 1, Form EAL-01, "EAL Matrix," Revision 7, implements 10 CFR 50.54(q) and 10 CFR 50.47(b). The EAL Matrix states that for a loss of any two fission product barriers a Site Area Emergency (SAE) is to be classified. A loss of primary containment barrier is indicated under the leakage heading, when a failure of both valves in any one line to close and a downstream pathway to the environment exists.

Title 10 of CFR Part 50, Appendix E, Criterion IV.F.2.g requires, in part, that all training, including exercises, shall provide for formal critiques in order to identify weak or deficient areas that need correction. Any weaknesses or deficiencies that are identified shall be corrected.

Title 10 of CFR Part 50.47(b)(14) requires, in part, that periodic exercises are conducted to evaluate major portions of emergency response capabilities, periodic drills are conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are corrected.

Contrary to the above, on October 18, 2006, the licensee failed to identify a weakness associated with a Site Area Emergency declaration during the critique of the Biennial Evaluated Emergency Planning Exercise. Specifically, the control room simulator crew failed to recognize a change in torus-to-reactor building vacuum breaker valve positions which delayed them from recognizing the threshold for entering the SAE event classification, FS1, "Loss or Potential Loss of Any Two Barriers" had been met. This led to a delay in classification of the SAE. This performance weakness was not identified during the licensee's critique presented to the NRC on October 19, 2006.

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This violation is associated with a White SDP finding.

RESPONSE TO THE VIOLATION:

FPL Energy Duane Arnold concurs with the cited violation.

1. REASON FOR THE VIOLATION

The causes of the violation are as follows.

- A. The operating drill crew failed, in a timely manner, to recognize the failures injected into the scenario as meeting the criteria for the Emergency Action Level (EAL) that should have caused the crew to declare a Site Area Emergency.
- B. Based on the belief that the deviation was not a significant crew performance failure, there was no subsequent station critique of this issue as a potential problem, and no CAP (corrective action program item) was generated to identify the problem.
- C. DAEC personnel did not recognize at the time that the failure to identify the scenario anomaly met this definition, and should have been considered a weakness. Since DAEC failed to recognize the weakness, the critique failed to identify this weakness, and the result was a failure of the Risk Significant Planning Standard (RSPS) without station recognition.

The formal root cause evaluation determined the root cause (RC) to be as follows:

RC1 – Emergency Preparedness has not formalized a leadership role that ensures the site meets all requirements of Emergency Plan (E-Plan) related drills, exercises and critiques.

- Multiple opportunities exist in the Emergency Planning (EP) processes that, if understood and strictly complied with, would ensure successful weakness identification. These opportunities are, however, not clearly described (see Causal Factor (CF) 1).
- Extent of condition analysis determined that medical and fire drills and critiques conducted under the requirements of the E-plan are not rigorously controlled.
- EP has not used training and controller briefings effectively to stress important elements of satisfying E-Plan requirements.

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The formal root cause evaluation determined the contributing factors to be as follows:

CF1 – The processes, as described by EP procedures, do not clearly drive the determination of whether a weakness exists in a RSPS.

- There are mismatches between the definition of a weakness and the description of a satisfactory or unsatisfactory NRC Drill/Exercise Performance (DEP) Performance Indicator (PI).
- RSPS are not clearly identified.
- The definition of “weakness,” as described in plant procedures is not an implementable and understandable description of a weakness.

CF2 – The EP processes do not drive the user towards timely initiation of CAPs per the Corrective Action Program process guidance, nor do they give reasonable alternative acceptable timelines for identification of issues.

- The process leads controllers and EP personnel to the conclusion that delays for certain CAPs are acceptable.
- The description of what needs to have a CAP does not match the Corrective Action Program procedure description.
- Forms are used to gather data with the implication that their use satisfies identification of a problem for resolution (see CF1).

CF3 – Scenario guidance gives delay criteria instructing controllers to deliver a message to declare an EAL if “Emergency classification discussions will not draw to the appropriate conclusions very soon.” This guidance is intended to ensure controllers interject when potential weaknesses arise.

- Scenario development guidance does not ensure a quality, reviewed and approved scenario is used to conduct drills and exercises (see CF1).
- Scenario guidance was sufficiently vague in several places as to allow a controller to miss a potential weakness while allowing the players to continue down an inappropriate path.

2. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

Immediate Corrective Actions

- The FPL Energy Duane Arnold Site Vice President discussed this event and his expectations for CAP initiation with the leadership team on November 2, 2006. The formal process for review and approval of EP drills and exercises was expanded to all exercise materials.
- EP Department Manual (EPDM) 1008, Emergency Response Drill and Exercise Program, was revised to (1) include guidance that a CAP shall be initiated for any significant deviation in Emergency Response Organization (ERO) performance from the exercise scenario expectations, and (2) change

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the exercise critique process to be more conducive to complete and thorough critiques of ERO performance.

- EPDM 1010, EP Department PIs, was revised to ensure the DEP process is completed prior to declaring success or failure of opportunities. Any evaluation prior to completion of the process should be clearly marked 'preliminary'.

Interim Corrective Actions

- An administrative hold was placed on the conduct of all evaluated EP Exercises until completion of upgrades to the EP processes per the Corrective Actions To Prevent Recurrence (CATPRs).

Corrective Actions to Prevent Recurrence and Corrective Actions for Contributing Factors

RC1CATPR1 – Revised the EP Program procedure to include a management oversight role in all E-Plan related activities, including fire and medical drills.

- Determined activities that require EP oversight including medical and fire drills.
- Developed E-Plan specific requirements including pass/fail criteria for medical and fire drills.
- Incorporated EP oversight role and pass/fail criteria above into the identified activities.
- Identified and revised Emergency Planning Implementing Procedures (EPIPs) and EPDMs that implement the pass/fail criteria and roles and responsibilities.

RC1CATPR2 – Developed and implemented a Lead Controller Qualification standard.

RC1CATPR3 – Revised EPDM 1008 and 1010 to place Lead Controller qualified individuals and EP personnel in specific roles in the drill structure to provide oversight and guidance.

RC1CATPR4 – Revised the scenario development guide and drill grading criteria to specifically indicate when different RSPS objectives and criteria are being demonstrated.

RC1CATPR5 – Created an EPIP specifically for drills. This EPIP incorporates specific E-Plan related pass/fail criteria for fire and medical drills. *It also includes reporting mechanisms to ensure E-Plan requirements are met.*

CF1CA1 – Revised the definition of "weakness" in EPIP 6.1 to include examples and to specifically define RSPS weaknesses.

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CF1CA2 – Revised Form EP-035 to clearly identify which Planning Standards are considered risk significant and to include pass / fail criteria.

CF1CA3 – Revised scenario development procedure to require RSPS be identified with specific pass/fail criteria in the controller drill materials (scenario).

CF1CA4 – Added RSPS specific criteria and discussions to controller and lead controller training programs and to controller briefings. These criteria were also added to the drill and exercise manual.

CF2CA1 – Revised EPDM1008 and 1010 to describe the process used for identification of issues and weaknesses. This change included when CAPs are required for each type of issue identified.

CF2CA2 – Added the process and criteria for initiating E-Plan related CAPs to controller training, lead controller training and to the drill and exercise manual.

CF3CA1 – Provided additional guidance in scenario and controller briefs for the deliverance of contingency messages including when contingency messages should be delivered to ensure scenario continues, and whether the deliverance of a contingency message constitutes a failure.

3. **CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

All corrective actions have been completed.

4. **DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Full compliance was achieved on October 19, 2006 with the initiation of CAP 44936.