NEXTera ENERGY
DUANE ARNOLD

June 3, 2016

NG-16-0120

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

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

Subject: FLEX Strategies Phase 2 Staffing Assessment

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012 (ML12054A736)
2. NEI 12-01, Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities (ML12125A412)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to all power reactor licensees, including NextEra Energy Duane Arnold, LLC's, (hereafter, NextEra Energy Duane Arnold). Reference 1 was immediately effective and directs NextEra Energy Duane Arnold to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1. Reference 2 is industry guidance document NEI 12-01 for determining the response of on-shift and augmented resources to an Extended Loss of Power (ELAP).

Please find as Enclosure 1 to this letter, a copy of NextEra Energy Duane Arnold's Phase 2 Staffing Assessment Report for a Beyond Design Basis External Event (BDBEE) for NextEra Energy Duane Arnold per NEI 12-01.

The assessment was conducted using Emergency Operating Procedures (EOPs) and Severe Accident Management Procedures (SAMPs).

This letter contains no new commitments nor does it revise any existing commitments.

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Should you have any questions regarding this matter, please contact Mike Davis, Licensing Manager at (319) 851-7032.

Sincerely,

P Hansen for TAV

T. A. Vehec
Vice President, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Enclosure

cc: Regional Administrator, USNRC, Region III
Resident Inspector, USNRC, Duane Arnold Energy Center
Project Manager, USNRC, Duane Arnold Energy Center

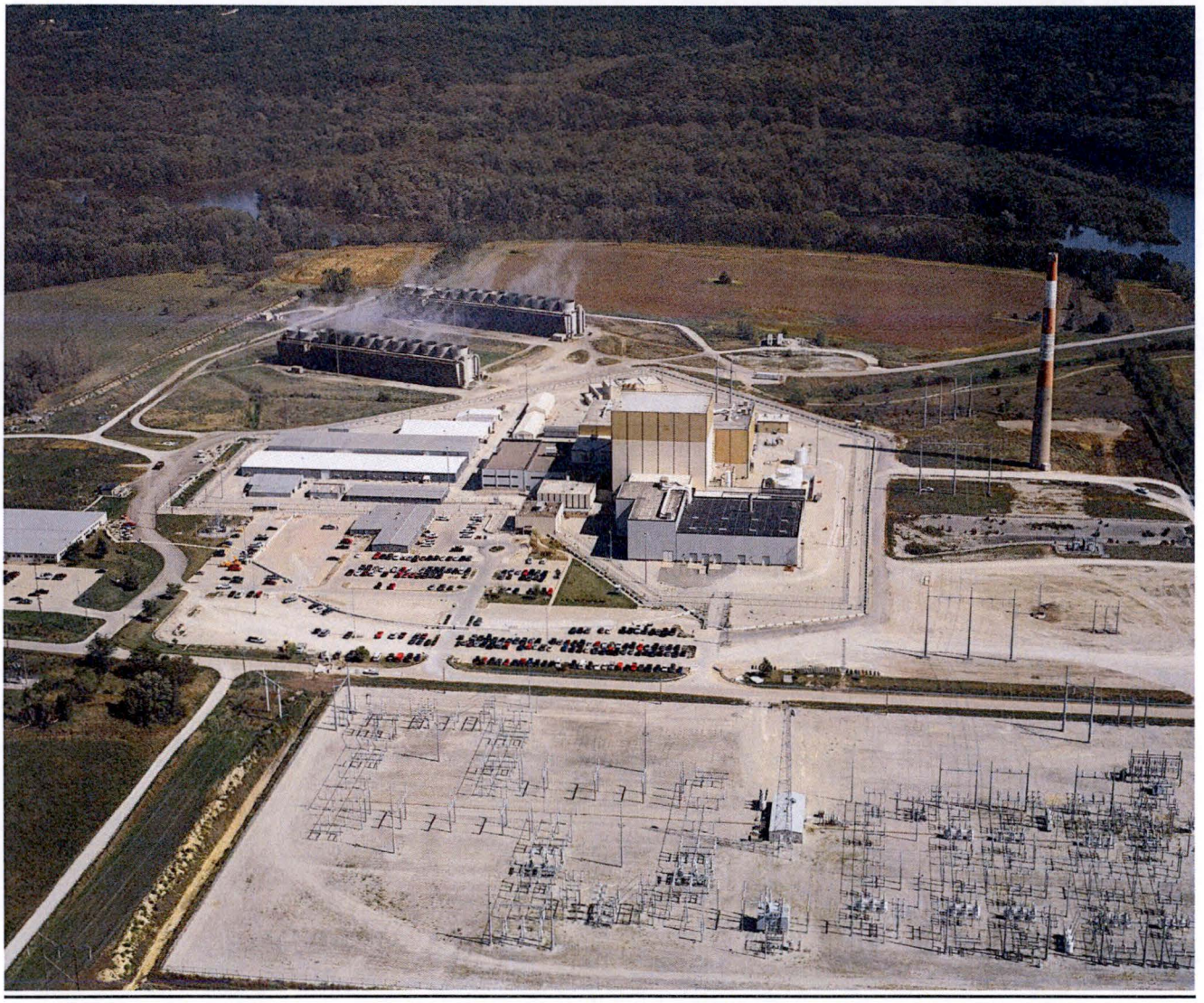
Enclosure 1 to
NG-16-0120

Duane Arnold Energy Center

FLEX Strategies Phase 2 Staffing Assessment

38 Pages to follow

DUANE ARNOLD ENERGY CENTER



FUKUSHIMA RESPONSE

NEI 12-01 PHASE 2

STAFFING ASSESSMENT REPORT

Review and Approval

Prepared by Paul Brozenich Signature on file **Date** _____

Reviewed by Tim Holt Signature on file **Date** _____

Reviewed by Mark Fritz Signature on file **Date** _____

Reviewed by Tom Rohe Signature on file **Date** _____

Approved by Ron Lingle Signature on file **Date** _____

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Executive Summary

This report documents the results of an assessment of the capability of the Duane Arnold Energy Center (DAEC) minimum on-shift staff and augmented Emergency Response Organization (ERO) to respond to a beyond design basis external event (BDBEE). The assumptions for the scenario are based on accepted industry guidance and postulate that the BDBEE involves a large-scale external natural event that results in:

A. An extended loss of AC power (ELAP)

B. An extended loss of the ultimate heat sink (LUHS)

C. Unit in operation at the time of the event

D. Impeded access to the unit by off-site responders as follows:

- 0 to 6 hours post event – No site access. (Initial Phase)
- 6 to 24 hours post event – Limited site access. Individuals may access the site by walking, personal vehicle or via alternate transportation capabilities (e.g., private resource providers or public sector support). (Transition Phase)
- 24+ hours post event – Improved site access. Site access is restored to a near-normal status and/or augmented transportation resources are available to deliver equipment, supplies, and large numbers of personnel. (Final Phase)

The assessment of the minimum on-shift staffing was performed by a team of DAEC subject matter experts from Operations, Radiation Protection, Security, Emergency Preparedness, and the FLEX project team. The team performed the staffing assessment on March 23-24 2016. The participants reviewed the assumptions and applied existing procedural guidance, including applicable draft Severe Accident Management Procedures (SAMPs) for coping with a BDBEE using minimum on-shift staffing. Particular attention was given to the sequence and timing of each procedural step, its duration, and the on-shift individual performing the step to account for both the task and the time duration analyses of NEI 10-05, Assessment of On-Shift Emergency Response Organization and Capabilities.

The on-shift staffing analysis concluded that there were no task overlaps for the activities that were assigned to the on-shift personnel. However, SAMP task training was not complete at the time of this assessment. Training will be delivered to E-plan on-shift staff and applicable qualifications applied and maintained to implement the FLEX strategies. These training

activities are tracked by AR 1744135-24. No additional shift staffing is necessary to implement the mitigating strategies for DAEC. The evaluation utilized the minimum E-plan on-shift staff from Operations, Radiation Protection, Chemistry, Fire Brigade and Security to accomplish all applicable event response tasks.

Introduction

This report documents a preliminary staffing assessment for a Beyond Design Basis External Event for Duane Arnold Energy Center. The assessment was performed using guidance in NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communication Capabilities," and NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," to determine the response of on-shift and augmented resources to an Extended Loss of Power (ELAP). The assessment addresses Phase 1 and 2 of the analysis applicable to implementation of existing and preliminary FLEX strategies for prolonged loss of offsite power initial and transition phases of the event, utilizing the methodology of NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities." The procedures, at the time of the assessment, were in a draft development state. When the procedures are finalized, a review will be conducted to ensure inputs to this staffing analysis remain valid.

The assessment was conducted using draft Severe Accident Management Procedures (SAMPs) and Emergency Operating Procedure (EOP) revisions. Use of these procedures is acceptable in accordance with NEI 12-01:

> "In accordance with the Order, each licensee must develop new strategies for mitigating the effects of beyond-design-basis external events. To ensure accurate results, the staffing assessment for response functions related to NTTF Recommendation 4.2 must be based on actions delineated in the procedures and guidelines developed in response to the Order. Once the site-specific actions associated with the new response strategies are defined (e.g., down to the procedure or guideline step level), the staffing needed to perform these actions can be assessed with the necessary level of accuracy."

The assessment considers required actions performed during the Initial and Transition Phases of an ELAP (first 24 hours). Evaluation of the first 24 hours of response is acceptable in accordance with NEI 12-01, Section 3.1 and NEI 12-06, Section 12.1:

> "Following successful implementation of Transition Phase coping strategies, there is a third phase characterized by the ability to cope indefinitely; this is referred to as the Final Phase (Phase 3). The Final Phase would involve the use of equipment and consumables transported to the site from offsite locations, including ongoing replacement and replenishment as needed. The demands placed upon the ERO during this phase are not significantly different than those associated with Transition Phase coping."

"On-site resources will be used to cope with the first two phases of the casualty for a minimum of the first 24 hours of the event."

Staffing Assessment Process Overview

Draft strategies for responding to an ELAP and draft Severe Accident Management Procedures (SAMPs) were evaluated during the NEI 12-01 Phase 2 Staffing Assessment by a multi-disciplined team. The staffing assessment also addressed the ability of the on-shift staff to perform any required emergency response functions prior to the delayed arrival of the augmented Emergency Response Organization (ERO).

The Phase 2 staffing assessment requires that the ELAP scenario be evaluated based on the minimum staffing in the Emergency Plan (NEI 12-01) and the supplemental staff allowed by the minimum administrative staffing procedures (NEI 12-06). DAEC Radiological Emergency Plan Table B-1, Revision 37 documents the approved minimum Emergency Plan on-shift staff. Table 1 below summarizes the available personnel.

Table 1-DAEC on - Shift Staffing

Line	On-Shift Position	Generic Title	On-Shift
1.	Operations Shift Manager (OSM)	SRO	1
2.	Control Room Supervisor (CRS)	SRO	1
3	Shift Technical Advisor (STA)	SRO	1
4.	Nuclear Station Operating Engineer (NSOE)	RO	1
5.	Assistant Nuclear Station Operating Engineer(ANSOE)	RO (FBL)	1
6.	Extra Assistant Nuclear Station Operating Engineer (EANSOE)	RO	1
7.	Second Assistant Nuclear Station Operating Engineer (SANSOE)	AO	1
8.	Nuclear Station Auxiliaries Operator (NSAO)	AO	1
9.	Nuclear Station Plant Equipment Operator (NSPEO) Radwaste Operator	AO (FBM)	1
10.	Health Physics Technician #1	RP	1
11.	Health Physics Technician #2	RP	1
12.	Chemistry Technician	CT	1
13.	Shift Communicator	SC	1
14.	Security watchman (FBM)	FBM	1
15.	Maintenance #1	FBM	1
16.	Maintenance #2	FBM	1
	Security	Sec plan	

SRO- Senior Reactor Operator, RO-Reactor Operator, AO- Auxiliary Operator, FBL-Fire Brigade Leader, FBM-Fire Brigade Member, SC-Shift Communicator

The DAEC FIRE PROTECTION PROGRAM FP-AB-100 identifies Fire Brigade staffing as being composed of the Assistant Nuclear Station Operating Engineer (RO) as the Fire Brigade Leader, Maintenance (2), Security, (1) and the Radwaste operator (1).

NEI 12-01 Phase 2 Assessment Results

No conflicts or overlaps in functions or tasks required to be performed by on-shift operations and support personnel were identified during this analysis. Transition Phase actions were required within the first six hours of the event.

Using NEI 12-01 and NEI 12-06 guidance, the minimum on-shift staff (as defined in the DAEC Emergency Plan B "Emergency Response Organization" Rev 37, Table B-1) performed all actions required by operating and emergency plan procedures in the first phase relying only on installed structures, systems and components in the initial phase of the response. After the ELAP condition was declared, functional draft Severe Accident Management Procedures (SAMPs) and applicable attachments were successfully implemented. They were performed using on-shift resources during the first six (6) hours and augmented responders from six (6) to twenty-four (24) hours as necessary for relief.

DAEC's phase 2 FLEX response relies upon the use of portable equipment. An evaluation of the SAMPs was conducted for the scenario. Validation & Verification (V & V) of the FLEX portable equipment deployment was conducted prior to the table top evaluation. The V & V was completed to determine the resources needed and estimated durations of each task associated with the strategy. The staffing assessment used the total number of resources identified and task durations to ensure DAEC can respond to an ELAP. The primary response to an ELAP event at DAEC is with installed equipment in phase one and portable equipment in phase 2.

A review of draft SAMPs was conducted to determine the resources needed and estimated durations of each task associated with the strategy. The total number of resources identified and task duration were then used to identify the two most resource limiting FLEX strategies. This analysis identified that the two most resource limiting FLEX strategies are:

- SAMP 724, FLEX Damage Assessment and Portable Equipment Deployment
- SAMP 722, FLEX Repowering Battery Chargers from FLEX 480 VAC DG

There were no required staffing or Emergency Plan changes identified during this assessment.

Phase 2 Staffing Assessment Details

The Phase 2 staffing assessment for DAEC was conducted on March 24 and 25, 2016 with a Simulator Validation Scenario on March 25, 2016, using the guidance of NEI 12-01, NEI 12-06 and NEI 10-05.

The following personnel were present to complete the assessment:

Table 2 – Staffing Analysis Team

Personnel (Position/Title)	Number	Organization/Department
Senior Reactor Operator (SRO)	1	Operations
Reactor Operator (RO)	1	
Health Physics Foreman	1	Radiation Protection
EP Coordinator	1	Emergency Preparedness
EP Manager	1	
FLEX Program Owner	1	Program Engineering
Security Shift Supervisor	1	Security
Fukushima Project Personnel	3	Fukushima Project
Simulator Scenario Personnel		
SRO	1	Operations
RO	2	
Operations Instructor	1	Operations Training
Fukushima Project Personnel	5	Fukushima Project

Assumptions

The extended loss of AC power event was evaluated using the following assumptions, consistent with NEI 12-01, NEI 12-06 and applicable assumptions from NEI 10-05.

NEI 12-01 - Assumptions for Staffing Assessment:

1. A large-scale external event occurs that results in:
   - extended loss of AC power
   - impeded access to the unit
2. Initially, the reactor is operating at full power and is successfully shut down.
3. A Hostile Action directed at the affected site does not occur during the period that the site is responding to the event.
4. The event impedes site access as follows:
   a. Post-event time: 6 hours – No site access. This duration reflects the time necessary to clear roadway obstructions, use different travel routes, mobilize alternate transportation capabilities (e.g., private resource providers or public sector support), etc.
   b. Post-event time: 6 to 24 hours – Limited site access. Individuals may access the site by walking, personal vehicle or via alternate transportation capabilities (e.g., private resource providers or public sector support).
   c. Post-event time: 24+ hours – Improved site access. Site access is restored to a near-normal status and/or augmented transportation resources are available to deliver equipment, supplies and large numbers of personnel.
5. On-shift personnel are limited to the minimum complement allowed by the site emergency plan and Fire Protection Program.

NEI 10-05 - Applicable Assumptions:

1. On-shift personnel can report to their assigned response locations within timeframes sufficient to allow for performance of assigned actions.

2. The on-shift staff possesses the necessary Radiation Worker qualifications to obtain normal dosimetry to enter Radiological Controlled Areas (but not locked high or very high radiation areas) without the aid of a Radiation Protection Technician.

3. Personnel assigned to the major response area of Plant Operations & Safe Shutdown meet the requirements and guidance established by NRC regulations and are able to satisfactorily perform the functions and tasks necessary to achieve and maintain safe shutdown. Staff performance within this area is not evaluated as part of this assessment, unless a role/function/task from another major response area is assigned as a collateral duty.

4. On-site security organization: Performance of this function is regularly analyzed through other station programs and will not be evaluated here, unless a role or function from another major response area is assigned as a collateral duty.

5. Individuals holding the position of radiation Protection technician or chemistry technician are qualified to perform the range of tasks expected of their position.

6. The task of making a simple and brief communication has minimal impact on the ability to perform other assigned functions/tasks, and is therefore an acceptable collateral duty for all positions. This assumption does not apply to emergency notification to an Offsite Response Organization (ORO) or the NRC. These actions must be assessed.

7. The task of performing a peer check has minimal impact on the ability to perform other assigned functions/tasks, and is therefore an acceptable collateral duty for all positions.

8. The analyzed events occur during off-normal work hours at a time when most augmented ERO responders are not at the site (e.g., during a backshift, weekend or holiday). For purposes of this analysis, and consistent with NEI 12-01 assumption #4, 360 minutes (6 hours) will be used as the time period for the conduct of on-shift ERO response actions.

NEI 12-06 Assumptions

1. Prior to the event the reactor has been operating at 100 percent rated thermal power for at least 100 days or has just been shut down from such a power history as required by plant procedures in advance of the impending event.

2. At the time of the postulated event, the reactor and supporting systems are within normal operating ranges for pressure, temperature, and water level for the appropriate plant condition. All plant equipment is either normally operating or available from the standby state as described in the plant design and licensing basis.

3. No specific initiating event is used. The initial condition is assumed to be a loss of off-site power (LOOP) at the plant site resulting from an external event that affects the off-site power system either throughout the grid or at the plant with no prospect for recovery of off-site power for an extended period.

4. All installed sources of emergency on-site AC power and SBO Alternate ac power sources are assumed to be not available and not imminently recoverable.

5. Cooling and makeup water inventories contained in systems or structures with designs that are robust with respect to for the applicable hazard(s) are available

6. Normal access to the ultimate heat sink is lost, but the water inventory in the UHS remains available and robust piping connecting the UHS to plant systems remains intact. The motive force for UHS flow, i.e., pumps, is assumed to be lost with no prospect for recovery.

7. Fuel for FLEX equipment stored in structures with designs which are robust for the applicable hazard (s) remains available.

8. Permanent plant equipment that is contained in structures with designs that are robust for the applicable hazard(s) is available.

9. Other equipment, such as portable AC power sources, portable back up DC power supplies, spare batteries, and LOLA equipment, may be used as on-site FLEX equipment provided it is reasonably protected from the applicable external hazards per NEI 12-06 Sections 5 through 9 and Section 11.3, and has predetermined hookup strategies with appropriate procedures/guidance and the equipment is stored in a relative close vicinity of the site.

10. Installed electrical distribution system, including inverters and battery chargers, remain available provided they are protected consistent with current station design.

11. No additional events or failures are assumed to occur immediately prior to or during the event, including security events.

12. The fire protection system ring header as a water source is acceptable only if the header is robust for the applicable hazard(s).

Plant Specific Assumptions

1. Plant Instrument Air is not assumed to be available during the assessment period.

2. RCS Inventory:

   a) Reactor Coolant inventory losses are limited to normal system leakage (identified and unidentified), recirculation pump seal leakage of 18 gpm per seal at Operating pressure, and losses due to HPCI, RCIC and SRV operation.

3. Station batteries Following Station Blackout Procedure AOP 301.1 load shed will provide power for the listed durations:

   a) 1D1 Division 1, 125VDC station battery will continue to provide power for at least 8 hours following load shed

   b) 1D2 Division 2, 125VDC battery will continue to provide power for at least 10 hours following load shed.

   c) 1D4 250VDC station battery will continue to provide power for at least 10 hours following load shed.

4. Plant communications will be available as follows:

   a) The plant public address system is available in the reactor building and control building for 4 hours.

   b) A total of 24 hand held radios with a capacity of 8-12 hours under anticipated load, are stored in the control building and are functional.

   c) Portable Satellite phones are functional in the control room, TSC, EOF, OSC.

   d) A portable 120VAC generator supplies power for charging portable communications radios and satellite phone batteries.

5. The Suppression Pool is initially the source of makeup water to the Reactor.

a) A portable diesel pump supplies water from the Circulating water pit to the Reactor following transition from RCIC. Circulating water pit inventory is sufficient for core cooling until Phase 3.

6. Station Batteries and inverters supply plant instrumentation.

7. Spent Fuel Pool Makeup or Spray equipment staging actions are desired before impediments to access could occur.

8. An Alternative Security Approach is implemented at DAEC to aid response to the beyond-design-basis external event.

9. All equipment credited in current coping strategies remains available for use.

10. During the ELAP, plant personnel are allowed to enter the Radiological Controlled Area without processing through the Radiological Protection control point.

11. The Emergency Off-Site Facility is located approximately 15 miles from the site and is available as a staging facility. The EOF is provided with a backup diesel generator.

METHODOLOGY

An assessment of on-shift staffing was performed using NEI 12-01, NEI 12-06 and NEI 10-05 guidance. Subject matter experts were assembled to provide analysis support. The assessment was conducted via a tabletop procedural analysis using DAEC procedures to determine if tasks have been sufficiently analyzed for performance by the minimum on-shift staff as designated in the Emergency Plan as allowed by NEI 12-06. The following provides a summary of the process that was used.

Each on-shift position from Emergency Plan Section 'B' Emergency Response Organization TABLE B-1 and any additional administrative on-shift position were entered in NEI 10-05 Appendix 1, Table 1. For position titles with more than one position holder, a unique sequential number was assigned to each position. The site emergency plan reference that describes the requirement for the position to be on-shift was then entered into column 3 of Appendix 1, NEI 10-05 Table 1. Firefighting was not applicable for this assessment. Using only the on-shift positions entered in the table, the following Appendix 1 tables were completed by entering the shift position that fills a described role, or performs a specific function or tasks:

- NEI 10-05 Table 2 – Minimum Operations Crew Necessary to Implement AOPs and EOPs, SAMPs or SAMGs if applicable.

- Table 2B – Procedural Implementation Time line of activities corresponding to Table 2
- NEI 10-05 Table 3-Fire Fighting (not applicable for this event analysis)
- NEI 10-05 Table 4-Radiation Protection & Chemistry Time Line of Activities
- NEI 10-05 Table 5-Emergency Plan Implementation
- Table 5A-E-Plan Implementation Time Line

Following completion of each of the above tables, each on-shift position assigned to the associated table was located on Appendix 1, NEI 10-05 Table 1. For each position, the table number and associated line number was then entered in column 4, "Role in Table#/Line#". If the associated task required additional actions, a "Yes" was placed in the last column and the additional action recorded in the results section of this report.

The On-Shift Staffing Assessment (OSA) was conducted using the following process:

1. Selection of the multi-disciplined work group
2. Scheduling the tabletop at the DAEC Operations support Center (OSC) to allow ready access to required procedures and administrative documents
3. Conduct of a pre-job briefing outlining the requirements of NEI 12-01, NEI 12-06 and NEI 10-05
4. Review of the event initial conditions and assumptions
5. Performance of the tabletop procedural analysis
6. Documentation of the results of the tabletop by Fukushima project group using the NEI 10-05 forms modified to extend to 24 hours.

This review provided the team with a basic understanding of the event and resulting emergency classifications. The SRO reviewed EOP, AOP and SAMP actions and identified them to the team. The procedures for FLEX strategies are in draft status which is adequate for a staffing assessment. When the procedures are finalized a review of the staffing assessment will be performed to ensure that the staffing assessment results have not changed. This activity is tracked by AR 2126130.

Resources needed to perform the initial and transition phase response actions were identified from the EOP, AOP, or SAMP procedures and documented. The team determined when other on-shift resources, such as the RP or Chemistry Technician, would be required and identified

the time required to perform expected emergency plan functions. This information was documented on the applicable tables in this report. Finally, the on-shift resources and their actions were summarized in the tables using the NEI 10-05 documentation process in Appendix 1, NEI 10-05 Table 1. One scenario, ELAP with loss of Ultimate Heat Sink was reviewed.

Security Considerations

Existing emergency procedures do not require the use of Security Officers to perform duties unrelated to their assigned roles. However, planned mitigation strategies require Members of the Security Force (MSF) to perform duties unrelated to their assigned roles, (e.g., debris removal and equipment staging).

Security Officers will perform functions within their current roles such as monitoring, damage assessment and controlling sites access and providing compensating measures for any vital area doors that may need to remain open to facilitate room environmental conditions and hose and personnel passage.

To the extent practical, security posture and security functions will be relaxed to facilitate immediate onsite and offsite response to the emergency. No additional events or failures are assumed to occur prior to or during a BDBEE including security events.

In preparation for response to an ELAP and a LUHS an alternative security approach has been developed. This alternative approach will enable event mitigation, while ensuring a level of protection appropriate for the circumstance. This approach is a site specific plan which includes elements such as establishing unassisted access for event mitigation and providing security personnel to assist with event mitigation. The site security department will be trained and prepared to implement the alternative approach when properly authorized. This training activity is tracked by AR 1744135-24.

Security personnel shall be the last group requested for assistance and the first group relieved once additional emergency response personnel arrive onsite. Security positions selected for reassignment to FLEX response activities are tiered and sequenced and consider position reassignment impacts to security responses under the protective strategy from the "least impactful". This is in line with the NRC guidance for an ELAP event for reassigning Security officers to FLEX response activities.

Site specific staffing assessments have estimated that 28 MSFs will be trained as FLEX Auxiliary Responders and will be responsible for debris removal from travel paths, transporting onsite portable equipment to staged locations, and assisting in deployment of hoses and cables. Of the possible 5 shift responders, 2 will be assigned per shift as FLEX Auxiliary Responders, available as needed for postulated beyond design basis events.

DAEC responses to Staffing Assessment Questions Related to Use of Security Personnel during a BDB Event Response

1. How has the site evaluated the use of on-shift personnel (excluding security) to address staffing and the movement of equipment for a beyond design basis event in phases 1, 2, and 3 mitigating strategies?

   DAEC Response:

   The site has evaluated the use of on-shift personnel (excluding security) to address staffing and the movement of equipment for a beyond design basis event in phases 1, 2, and 3 mitigating strategies in accordance with the NRC staff-endorsed guidance contained in NEI 12-01, Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities.

   NOTE – The Mitigating Strategies Order and NRC JLD-ISG-2012-01 refers to Phases 1, 2 and 3 as the Initial Phase, Transition Phase and Final Phase, respectively.

2. All apparent immediate actions taken to address the condition without the use of security (e.g., the exhaustive use of other site personnel).

   a.) How is "immediately" defined for the use of security personnel to support the site event?

   DAEC Response:

   Immediately is defined as the moment at which the senior license operator in the Control Room determines that an event has occurred, or plant conditions are present, which will require implementation of Severe Accident Management procedures (e.g., deployment of Initial Phase and/or Transition Phase Mitigating strategies).

b.) What are the other actions that may be taken before using 10 CFR 73.55(p)?

DAEC Response:

Through implementation of the appropriate procedures and guidelines, Control Room operators will select the appropriate mitigating strategies for responding to the post-event plant conditions, and direct the performance of the in-field/plant actions necessary to implement these strategies. Consistent with the goal of protecting public health and safety, implementation of strategies will utilize the on-site staff in such a way as to ensure that equipment retrieval and operation occurs within the timeframes necessary to maintain safety functions.

3. Is the site considering the use of security personnel for other beyond design basis events that are not characterized by the conditions outlined within the guidance document? If so what are these events and the associated rationale for using security personnel?

DAEC Response:

No; the site is not considering the use of Security personnel for other beyond design basis events that are not characterized by the conditions outlined within the guidance document.

4. Technical information concerning why the use of Security personnel would address the condition.

DAEC response:

The use of security personnel would address the condition because of their availability as a response resource to the Control Room and will help to ensure that mitigating strategies are implemented within the timeframes necessary to maintain safety functions. Such implementation will preclude or minimize offsite radiological consequences, and thus contribute to the protection of public health and safety. [NOTE: No additional events or failures are assumed to occur immediately prior to or during the event including security events]

Security personnel will be supporting implementation of the following event mitigation procedures and guidelines:

- **SAMP 724 – FLEX Damage Assessment and Portable Equipment Deployment**

5. If security is used to meet staffing requirements and the placement of equipment, what phase(s) would require their support?

DAEC Response:

Security support would be necessary during Phase 1 and Phase 2 (Initial Phase and Transition Phase).

6. The rationale concerning the use of security personnel:

a.) How many security personnel are necessary to support the event?

DAEC Response:

Two (2) security personnel are necessary to support the event.

b.) What security requirements in part or total are impacted by the use of the security personnel?

DAEC Response: An Assessment Table below represents the response to 6b.

Non-Safeguards Staffing Assessment Table

Position	Mitigating Strategy Duty
Auxiliary Responder #1	Operate pre-staged heavy equipment and perform debris removal. May also include assisting plant Operations with deployment of FLEX equipment as necessary.
Auxiliary Responder #2	Operate pre-staged heavy equipment and perform debris removal. May also include assisting plant Operations with deployment of FLEX equipment as necessary.

c.) What is the estimated duration for the use of security personnel?

DAEC Response:

Notwithstanding the uncertainties associated with a beyond design basis event, the estimated duration is bounded as stated below.

- As noted earlier, the "start time" is the moment at which the senior licensed operator in the Control Room determines that an event has occurred or plant conditions are present, which will require implementation of Severe Accident Management Procedures (e.g., deployment of Initial Phase and/or Transition Phase mitigating strategies).

- With respect to the "end time", it is anticipated that augmented ERO staff would be able to access the site at around 6 hours following the event. Allowing for some margin in the arrival times of ERO personnel, the need to do job briefings and turnovers, the release of security personnel from mitigating strategies duties should occur during the period of approximately 6 to 12 hours after the initiating event.

d.) What are the duties that will be assigned to security personnel?

DAEC Response:

See response to question 6b, above. The staffing assessment has verified that the designated security personnel do not have non-security related task assignments that would prevent them from performing their mitigating strategy implementation duties (i.e., no assigned collateral duties). Response training for security personnel will be developed in accordance with the guidance in NEI 12-06.

e.) What actions will be required to restore security to its normal posture?

DAEC Response:

The actions that will allow for dismissal of security personnel from duties associated with implementation of mitigating strategies would be the arrival of a sufficient number of augmented ERO personnel. Once dismissed, security personnel may resume their normal duties.

Appropriate procedures and guidelines will contain instructions to the effect that absent an overriding safety consideration, security personnel will receive priority consideration for mitigating strategy duty relief by the augmented ERO.

7. Is the use of security personnel conducted via a tiered approach to minimize impact to security response capability? Use of security personnel should be sequenced such

that security personnel whose reassignment will adversely impact security the least are reassigned first (e.g. use security personnel who are performing administrative functions before those who are implementing the protective strategy).

DAEC Response:

Yes; the use of security personnel was determined via a tiered approach to minimize the impact to security response capability. The selection of personnel considered assigned functions and potential impacts to the protective strategy. The assignments were made such that security personnel with the least impact to the protective strategy were reassigned first. The assignment shown in the Table above (response to question 6b) reflects the selection rationale; least to greater impact

Strategy Resource Loading

Selected SAMPs were reviewed to determine the resources needed and estimated durations of each task associated with the FLEX strategy. The resources and time frames have been incorporated into Table 2B for ELAP response.

Strategy Resource Loading

SAMP	Description	Resources	Notes
708	Emergency RPV makeup with the Portable Diesel Fire Pump	Ops (1) FBM (1)	PDFP & hose trailer previously staged during deployment
715	Portable Diesel Fire Pump Operation	FBM (2)	Deploy PDFP & suction hose connect
721	FLEX 480 VAC Diesel Generator Operation	FBM (1)	Starting PDG
722	FLEX Repowering Battery Chargers from FLEX 480 VAC DG	FBM (3)	Cable run to Battery Chargers
723	Flex Repowering MCC 1B32 from A FLEX 480 VAC Portable Diesel generator	FBM (2) or ERO (2)	Cable run to 1B32 and breaker lineup
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (5)	Damage assessment and deployment route selection
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (5)	Debris removal from deployment routes and equipment staging areas
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (2)	Deploy Cable trailer
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (2)	Deploy PDFP & stage
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (2)	Deploy & stage Hose trailer

Strategy Resource Loading

SAMP	Description	Resources	Notes
708	Emergency RPV makeup with the Portable Diesel Fire Pump	FBM (2)	Connect 5" discharge hose to PDFP and run hose to turbine building
724	FLEX Damage Assessment and Portable Equipment Deployment	FBM (2)	Deploy portable 480VAC DG
722	FLEX Repowering Battery Chargers from Flex 480 VAC DG	FBM (1)	Battery Charger breaker Lineup
725	FLEX Alternate Power to Instrument AC	FBM (2) or ERO (2)	Deploy 120 VAC PDG & cable connection
727	FLEX Local Instrument Readings	Ops (1), or ERO(1)	Obtain Instrument Rack readings and Fluke measurements at Foxboro panels
729	Flex Ventilation Of the Reactor Building without AC Power	Ops(1) or FBM(1)	Opening of the refuel floor Roof vent Damper and Opening Rx Bldg. Airlock door
730	Flex Guidelines for RCIC use during a BDBEE	Ops(1)	Operational Guideline only

Appendix 1 - Staffing Tables

NEI 12-01 Phase 2 Analysis

On-Shift Personnel Assignments Used During Analysis

Operations On-Shift Assignments

Position	Designation	Assignment
Shift Manager	SM (SRO)	Shift Manager/Site Emergency Coordinator
Control Room Supervisor	CRS (SRO)	Control Room Command and Control
Control Room Operator	RO#1	Control Room Operator
Control Room Operator	RO#2	Control Room Operator
NSPEO	AO#1	Auxiliary Operator
NSPEO	AO#2	Auxiliary Operator
Shift Technical Advisor	STA	Crew Oversight
Control Room Operator	FBL(RO#3)	Fire Brigade Leader
Radwaste Operator	FBM#2	Fire brigade Member
Shift Communicator	SC	Communications EP communicator

Other On-Shift Assignments Used During Analysis

Position	Designation	Assignment
RP Technician	RP#1	RP Support
RP Technician	RP#2	RP Support
Maintenance #1	FBM#3	Fire Brigade member
Maintenance #2	FBM#4	Fire Brigade member
Chemistry Technician	CT1	Chemistry Sampling/Dose Assessment
Security*	FBM#5	Fire Brigade Member
Security Supervisor and personnel per the security plan	SEC*	Security Supervision/Control & Command and duties as assigned by the control room to include portable equipment staging support.

* Security personnel numbers are safeguards information. Personnel are per the security plan. Security SME during the staffing assessment verified security personnel would be available to perform the functions of controlling site access and compensatory measures for any doors or gates that need to remain open for support of portable equipment mobilization.

Appendix 1

Extended Loss of all AC Power (ELAP)

NEI 10-05 Table 1-DAEC on - shift Staffing

Line	On-Shift Position	Emergency Plan Reference	Role In Table#/ Line#	Action Required
1.	Shift Manager	E Plan Table B-1	Table 2/L1, Table 5/L1,L2,L3,L5	Yes
2.	Control Room Supervisor	E Plan Table B-1	T2/L2	Yes
3.	Reactor Operator #1	E Plan Table B-1	T2/L4	Yes
4.	Reactor Operator #2	E Plan Table B-1	T2/L6	Yes
5.	NSPEO #1(Auxiliary Operator)	E Plan Table B-1	T2/L7	Yes
6.	NSPEO #2(Auxiliary Operator)	E Plan Table B-1	T2/L8	Yes
7.	Shift Technical Advisor	E Plan Table B-1	T2/L3, T5/L9	Yes
8.	Reactor Operator #3 FBL	E Plan Table B-1/Fire plan	T2/L5	Yes
9.	Health Physics Technician RP #1	E Plan Table B-1	T2/L11, T4/L1	No
10.	Health Physics Technician RP #2	E Plan Table B-1	T 2/L12, T4/L2	No
11.	Chemistry Technician CT1	E Plan Table B-1	Table 2/L13, T4/L3	No
12.	Radwaste Operator FBM#2	E Plan Table B-1/Fire Plan	Table 2/L9	Yes
13.	Security watchman FBM#5	E Plan Table B-1/Fire Plan	Table 2/L10	Yes
14.	Shift Communicator	E Plan Table B-1	Table 2/L16 T5/L6,L7,L8,,L12	No
15.	Maintenance #1 FBM#3	E Plan Table B-1/Fire Plan	Table 2/L14	Yes
16.	Maintenance #2 FBM#4	E Plan Table B-1/Fire Plan	Table 2/L15	Yes
17.	Security (SEC)	E Plan Table B-1	Table 5/L14	Yes

Notes: Note 1 –Training required for assigned SAMP support actions (see Table 2A).

Appendix 1

NEI 10-05 Table 2 – Plant Operations & Safe Shutdown

One Unit-One Control Room

Minimum Operations Crew Necessary to Implement

AOPs and EOPs, SAMPs or SAMGs if applicable

Line	Generic Title/Role	On Shift Position	Task Performance Validation
1.	Shift Manager	Operations Shift Manager (OSM)	Operator Training
2.	Control Room Supervisor	Control Room Supervisor (CRS)	Operator Training
3.	Shift Technical Advisor	Shift Technical Advisor (STA)	Operator Training
4	Reactor Operator#1	Nuclear Station Operating Engineer (NSOE)	Operator Training
5	Reactor Operator#3	Assistant Nuclear Station Operating Engineer(ANSOE) FBL	Operator Training
6	Reactor Operator#2	Extra Assistant Nuclear Station Operating Engineer (EANSOE)	Operator Training
7	Auxiliary Operator #1	Second Assistant Nuclear Station Operating Engineer (SANSOE)	Operator Training
8	Auxiliary Operator #2	Nuclear Station Auxiliaries Operator (NSAO)	Operator Training
9	Radwaste Operator	Nuclear Station Plant Equipment Operator (FBM)	Operator Training

Other (non-Operations) Personnel Necessary to Implement AOPs, EOPs, SAMPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
10	Security Officers	Security Officers (SEC)	Security Training Note 1
11	RP Technician	RP Technician (RP1)	RP Training Note 1
12	RP Technician	RP Technician (RP2)	RP Training Note 1
13	Chemistry Technician	Chemistry Technician (CT1)	Chemistry/EP Training Note 1
14	Maintenance # 1	Fire Brigade	Fire Brigade Training
15	Maintenance # 2	Fire Brigade	Fire Brigade Training
16	Shift Communicator	Shift Communicator	EP Training

Note 1: See Table 2A for FLEX training requirements;
See Table 2B for applicable AOP/EOP/SAMP actions.

Appendix 1

TABLE 2A FLEX Training Requirements

TABLE 2A FLEX Training Requirements

Audience	Lesson	Training Setting and Approximate Duration
ERO Decision Makers and Evaluators Licensed Operators Non-Licensed Operators Fire Brigade Security Personnel Maintenance General Plant Staff	Basic FLEX on NANTEL	CBT 1 Hour
Licensed Operators Non-Licensed Operators Fire Brigade Security Personnel ERO Decision Makers and Evaluators	Advanced FLEX on NANTEL	CBT 1 Hour
Licensed Operators Non-Licensed Operators Fire Brigade Security Personnel ERO Decision Makers and Evaluators	FLEX Site Specific Overview including OP-AA-100-1005 Extreme Plant Transient Response Rules	CBT - 0.5 Hour
ERO Decision Makers and Evaluators Licensed Operators	HPCI / RHR logic Failures	Class Room - 2.0 Hour
Licensed Operators ERO Decision Makers and Evaluators	RCIC Logic Failures	Class Room -2.0 Hours
Licensed Operators	Control of FLEX Equipment Out of Service Times	Class Room -2.0 Hour
Licensed operators Non-licensed Operators	AOP 301.1 Station Blackout , FLEX Changes	Class Room – 2.0 Hours Simulator -2.0 Hours
SRO/STA ERO Decision Makers and Evaluators	FLEX Coping Strategies Overview	Class Room – 2.0 Hours
Licensed Operators	SAMP 724 Implementation	Class Room – 2.0 Hours

TABLE 2A FLEX Training Requirements

Audience	Lesson	Training Setting and Approximate Duration
ERO Decision Makers and Evaluators SRO/STA ERO Shift Communicator	Emergency Management Guidelines, Activate/coordinate with the NSRC, Overview SAMP 719,TSG update	Class Room – 4.0 Hours
Licensed Operators Non-Licensed Operators	AOP 435, Loss Of Fuel Pool Cooling or Level, include SAMP 712, Spent Fuel Pool Makeup and Spray, SFPLI Mod training	Class Room 1.0 Hour Simulator 1.0 Hour
Licensed Operators ERO Decision Makers and Evaluators	EOP 3, Secondary Containment Control, FLEX Changes	Class Room – 1.0 Hour
Licensed operators Non-Licensed operators	SAMP 727, FLEX Local Instrument Readings SAMP 730, FLEX Guidelines for RCIC Use During a Beyond Design Basis External Event SAMP 729, FLEX Ventilation of the Reactor Building Without AC Power SAMP 731, FLEX Restoration of CV 4371A DW Valves N2 Supply Isolation (From 1T-128)	Class Room - 4.0 Hours
Security personnel	Backhoe Qualification	Class Room -8.0 Hours Practical -4 Hours
Licensed Operators Non-Licensed operators	SEP 301.3, Operation of Hard Pipe Vent	Class Room – 1.0 Hour DLA – 1 Hour
Fire brigade 1 RO qualified ANSOE 1 NSPEO Qualified RW 2 Security 2 maintenance	SAMP 719, Emergency Refueling of Diesel Powered Equipment SAMP 721, FLEX 480VAC Diesel Generator Operation SAMP 722, Repowering Battery Chargers from FLEX 480VAC DG SAMP 723, Repowering MCC 1B32 from 480VAC FLEX DG SAMP 724, FLEX Damage Assessment and Portable Equipment Deployment SAMP 725, FLEX Alternate Power to Instrument AC	Class room / Walk down - 16 Hours

TABLE 2A FLEX Training Requirements

Audience	Lesson	Training Setting and Approximate Duration
Fire Brigade 1 RO qualified ANSOE 1 NSPEO Qualified RW 2 Security 2 maintenance	SAMP 726, FLEX Adverse Environmental Conditions Guideline SAMP 728, FLEX Replenishment of Water Inventories	Combined with Fire Brigade training class room / walk down on previous page

Appendix 1 Table 2B – Procedure Task Timing, TSA-Time Sensitive Action

Procedure Step/Actions			Performance Time After Procedure Implementation																												
			Minutes – Hour 1						Minutes						Hour																
Step	Task	Resource	0-10	10-20	20-30	30-40	40-50	50-60	120	180	240-300	300-360	360-420	420-480	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Station Blackout	Event starts	Minimum shift crew																													
EOP-1 RPV Control	Stabilize RPV Level, Pressure, Verify RX shutdown, Verify Isolations & initiations Control RPV level with RCIC.	CRS RO1 RO2 SM	X																												
EOP-1 RC/P	Override open CV 4371A Defeat 11. Place CV-4371A Group 3 Override Switch in Override Open, Confirm CV-4371A Opens	RO 2	X																												
ACP 1410.1	Parameter monitoring, Crew backup	STA	X																												
EOP-1 AOP 301.1 step 11	RPV Cooldown with SRVs & RCIC <100F/Hr., to 150-200psig. Maintain RPV Pressure 150-200psig initiate cooldown log (attachment 7&8)	RO1	X																												
ACP1410.1	Oversight	SM	X																												
EPIP 1.1	Determine EAL Site Area Emergency (General Emergency)	SM	X				X																								
EPIP 1.2 Notifications	Notify NRC	SC	X																												
EPIP 1.3	Accountability	Security			X																										
AOP 301.1 step 1a	Attachment 4 Open CR cabinet doors	RO3	X																												
AOP 301.1 step 2a	Attachment 1 essential switch gear rooms ventilation.	AO1	X																												
AOP 301.1 step 2a	Attachment 1 Security Support per Attachment 9 Doors	Security	X																												
AOP 301.1 step 2b	Attachment 5 Block open Control Room Doors	RO3	X																												
AOP 301.1 step 2c/2d	Issue Rx Bldg. Key Block Open HPCI Room upper and lower doors & notify Control Room	AO1			X																										
AOP 301.1 step 3	Critical parameter monitoring RPV Pressure, Torus Temperature, RPV cooldown	RO1	S	Intermittent Task for RO1 and RO2																											X
		RO2	S																												X
AOP 301.1 recheck	Declare ELAP TSA	SM	X																												
AOP 301.1 recheck	Direct Fire Brigade to Implement SAMP 724 Damage Assessment & Portable Equipment Deployment	SM	X																												
AOP 301.1 recheck	Activate SAFER	SC		X																											
AOP 301.1 step 5	implement Attachment 2 Main condenser and DG room instructions	AO2		X																											
AOP 301.1 step 7	Notify ITC Midwest of SBO	SC	X																												
AOP 301.1 step 8	Place Bus transfer switches to manual	RO2	X																												
AOP 301.1 step 10	Implement Attachment 3 Essential switchgear Rooms instructions	AO2				X																									
AOP 301.1 steps 10 a, b, c, d	Bypass RCIC and HPCI High Area Temperature Isolations	RO2	X																												
AOP 301.1 step 12	Perform Attachment 11 Secure MG set oil, Vent GEN H2	AO2						X																							
AOP 301.1 step 13	Periodically check Voltage at H and I breaker	RO2 intermittent																													

Appendix 1 Table 2B – Procedure Task Timing, TSA-Time Sensitive Action

Procedure Step/Actions			Performance Time After Procedure Implementation																													
			Minutes – Hour 1						Minutes						Hour																	
Step	Task	Resource	0-10	10-20	20-30	30-40	40-50	50-60	120	180	240-300	300-360	360-420	420-480	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AOP 301.1 step 14	Isolate Transformer deluge systems when Air Pressure is 50 #	AO2					X																								
AOP 301.1 step 15b	Install Defeat 1 RCIC lo press isolation	RO1		X																											
AOP 301.1 step 19	Perform attachment 13 DC Load Shed	AO1			X																										
SAMP 724 Section 1	Assess damage to ERBs and debris select deployment routes, start debris removal	FB#1, FB#2, FB#3 FB#4,FB#5			X																										
SAMP 724 Section 1	Security Support for Fencing removal, Gates, North & South T Bldg. Roll Up doors, Cable Trailer, PDFP and PDG Staging	Security								X																					
SAMP 724	Debris Removal	FB#3, FB#4, FB#5							X																						
SAMP 724	Prepare for equipment deployment (manually open FLEX Building rollup doors)	FB#1, FB#2 Security								X																					
SAMP 724 section 2.0	Deploy Cable trailer to staging area	FB#1, FB#2									X																				
SAMP 722 1.0	Security support for cable routing to 1A3 switch gear	Security									X																				
SAMP 722 1.0	SAMP 722 RP Support for Cable routing to 1A3 switch gear	RP#1								X																					
SAMP 722 Section 2.0	Cable layout for 1D12	FB#3, FB#4 , FB#5									X																				
SAMP 724 Section 3.0,	Return to ERB for PDFP deployment; Deploy PDFP.	FB#1, FB#2,									X																				
SAMP 724 Section 3.0	Return to ERB for hose trailer; Deploy hose Trailer	FB#1, FB#2										X																			
SAMP 724 Section 3.0	Return to ERB for hose trailer; Deploy hose Trailer	FB#1, FB#2										X																			
SAMP 708 Section 1.0	Hose Layout Hose Trailer to South T Bldg. Roll up door	FB#1, FB#2										X																			
SAMP 715 Section 1.1 Step 15	Open RHR Inject valve and hose layout RHR to south T Bldg. Roll up door	AO1, FB #5										X																			
SAMP 722 Sections 3.0, 4.0	Cable Route to 1D120 & 1D43	FB #3, FB#4, FB#5										X																			
SAMP 708 Section	Start PDFP and pressurize hoses	AO1, FB #5										X																			
SAMP 708 1.0	Security support for PDFP Hose Routing South T building Roll up Door	Security								X																					
SAMP 715 Section 1.0	Ready for Injection	AO#1, FB#5										X																			
SAMP 724 Section 2.0, SAMP 721 1.0, 2.0	Return to ERB for PDG ; Deploy, Stage, PDG	FB#1, FB#2											X																		
SAMP 722 Section 2.0	1D12 Battery supplied by PDG	FB#3, FB#4											X																		
SAMP 722 Sections 3.0 & 4.0	1D120 &1D43 Batteries supplied by PDG	FB#3, FB #4											X																		
SAMP 708	Depressurize RPV for PDFP injection	CRS/RO#1												X																	
SEP301.3	Vent Containment	CRS RO1 RO2																X													
SAMP 719	Transport Refueling trailer, Refuel portable Equipment	ERO(2)																					X								

Appendix 1 Table 2B – Procedure Task Timing, TSA-Time Sensitive Action

Procedure Step/Actions			Performance Time After Procedure Implementation																													
			Minutes – Hour 1						Minutes						Hour																	
Step	Task	Resource	0-10	10-20	20-30	30-40	40-50	50-60	120	180	240-300	300-360	360-420	420-480	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SAMP 712,Attachment 1, Step 2	Route 5" Fire Hose To Power Block access point performed with SAMP 708 Section 1.0	FB#1, FB#2,										X																			
SAMP 712,Attachment 1, Step 3	Contact Security to Open Roll-up Doors and remove barriers to run fire hose into the power block Performed Earlier	Security								X																					
SAMP 712,Attachment 1, Step 4	Connect 21/2" fire hose to wye adaptor	ERO (1)																								X					
SAMP 712,Attachment 1, Step 5	Route 21/2" Hoses through accessible doors and stairwells to SFP a. Secure hose along route b. Secure hose to direct makeup into SFP	ERO (3)																								X					
SAMP 712 Attachment 1, Step 6	Start PDFP & open discharge valve	ERO (2)																								X					
SAMP 712 Attachment 1, Step 7	Confirm hoses secure and water flow into pool	ERO (2)																									X				

Appendix 1

NEI 10-05 TABLE 3 – Firefighting

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A

Notes: Not required by scenario – Fire Brigade members available to support BDBEE response actions.

Appendix 1

NEI 10-05 TABLE 4– Radiation Protection & Chemistry ELAP Response

Line	Position Performing Function/Task	Performance Time Period After Event Initiation														
		Minutes						Hours								
		0-10	10-20	20-30	30-40	40-50	50-60	2	3	4	5	6	7	8	9	10
1.	Job Coverage On-Shift Position: RP1					In Plant Surveys										
2.	Job Coverage On-Shift Position: RP2					Job coverage and as necessary for locked high radiation entry										
3.	Job Coverage On-Shift Position: CT1					Required Sampling and Dose assessment										

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (hours)													
		11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.	Job Coverage On-Shift Position: RP1	In Plant Surveys													
2.	Job Coverage On-Shift Position: RP2	Job coverage and as necessary for locked high radiation entry													
3.	Job Coverage On-Shift Position: CT1	Required Sampling and Dose assessment													

Appendix 1

NEI 10-05 Table 5 - Emergency Plan Implementation

Line	Function /Task	ON-Shift Position
1.	Declare the Emergency Classification Level	SM
2.	Approve Offsite protective Action Recommendations	SM
3.	Approve Content of State/Local notifications	SM
4.	Approve extension to allowable dose Limits	N/R
5.	Notification and direction to on-shift staff (e.g. assemble, evacuate, etc.)	SM SEC
6.	ERO notifications	SC
7.	Complete State/Local notification form	SC
8.	Perform State/Local notifications	SC
9.	Complete NRC Event notification form	STA
10.	Activate ERDS	N/A
11.	Offsite radiological assessment	N/R
12.	Perform NRC notifications	SC
13.	Perform other Site specific notifications (e.g. INPO, SAFER, etc.)	SC
14.	Personnel Accountability	SEC

Notes: Note 1 – On-site Notifications to State/local agencies and NRC performed using battery powered communications equipment installed in the Control Room.
Note 2 – ERDS capability is unavailable due to BDBEE impact on communications infrastructure.
Note 3 – Radiological release does not exist, offsite radiological assessment is not required.
Note 4 – NRC Communications and other site-specific notifications assumed by EOF personnel once staffed and activated.
N/R – Not Required
N/A – Not Applicable
See Table 5A for E-Plan implementation timeline

Appendix 1

Table 5A - E-Plan Implementation Timeline

Function/Task	On-shift Position	3	6	9	12	15	18	21	24	27	30	35	40	45	50	55	60
Declare the Emergency	SM			X										X			
Approve Offsite PARs	SM					X										X	
Approve State/Local Notification Form	SM						X										X
Approve extension to allowable dose limits	N/R																
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SM					X											
ERO notification	SC					X											
Complete State/local notification form	SC					X										X	
Perform State/local notifications [Note 1]	SC						x										X
Complete NRC event notification form	STA											X					
Activate ERDS [Note 2]	N/A																
Offsite radiological assessment [Note 3]	N/R																
Perform NRC notifications [Note 1, 4]	SC														X		
Perform other site-specific event notifications (e.g., INPO, ANI, etc.) [Note 4]	N/A																
Personnel accountability	SEC					X				X							

Table 5A Notes

Notes:	Note 1 – On-site Notifications to State/local agencies and NRC performed using portable battery powered satellite communications equipment installed in the control room. Note 2 – ERDS capability is unavailable due to BDBEE impact on communications infrastructure. Note 3 – Radiological release does not exist, offsite radiological assessment is not required. Note 4 – Initial NRC notification performed by SC. Continuous NRC Communications provided by Shift Communicator and other site-specific notifications assumed by EOF personnel once staffed and activated. N/R – Not Required N/A – Not Applicable
	Site Area Emergency declaration completion time
	General Emergency declaration completion time
	Estimated Task completion and duration time