



10 CFR 50.4
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April 25, 2013

UN#13-029

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

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Revised Partial Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI 372, Emergency Planning

- References:
- 1) Michael Canova (NRC) to Paul Infanger (UniStar Nuclear Energy),
"CCNPP3 - FINAL RAI 372 NSIR 6711," dated September 26, 2012
 - 2) UniStar Nuclear Energy Letter UN#12-109, from Mark T. Finley to
Document Control Desk, U.S. NRC, Response to Request for Additional
Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI 372,
Emergency Planning, dated October 26, 2012
 - 3) UniStar Nuclear Energy Letter UN#13-006, from Mark T. Finley to
Document Control Desk, U.S. NRC, Updated RAI Closure Plan, dated
January 30, 2013

The purpose of this letter is to provide a revised partial response to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated September 26, 2012 (Reference 1). This RAI addresses Emergency Planning, as discussed in Section 13.3 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 9.

In a January 23, 2013 public meeting on Emergency Preparedness, the NRC provided comments on the RAI 372, Question 13.03-53 response which was transmitted in the original RAI 372 response (Reference 2).

Reference 3 indicated that a revised response to RAI 372, Question 13.03-53, for the purpose of providing a discussion of Shift Staffing, would be provided by April 30, 2013.

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Enclosure 1 provides our revised response to RAI No. 372, Question 13.03-53, for the purpose of providing a discussion of Shift Staffing, and includes revised COLA content. Enclosure 2 provides the Emergency Response Organization (ERO) On-Shift Staffing Analysis Report.

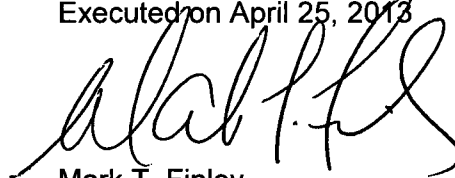
A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA. Enclosure 3 provides a table of changes to the CCNPP Unit 3 COLA associated with this RAI 372 response.

There are no regulatory commitments identified in this letter. This letter does not contain any proprietary or sensitive information.

If there are any questions regarding this transmittal, please contact me at (410) 369-1907, or Mr. Wayne A. Massie at (410) 369-1910.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 25, 2013



Mark T. Finley

- Enclosures:
- 1) Revised Response to NRC Request for Additional Information RAI No. 372, Question 13.03-53, Emergency Planning, Calvert Cliffs Nuclear Power Plant, Unit 3
 - 2) Calvert Cliffs Nuclear Power Plant, Unit 3, Emergency Response Organization (ERO) On-Shift Staffing Analysis Report
 - 3) Table of Changes to CCNPP Unit 3 COLA Associated with the Revised Response to RAI No. 372, Questions 13.03-53, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn-Willingham, NRC Environmental Project Manager, U.S. EPR COL Application
Amy Snyder, NRC Project Manager, U.S. EPR DC Application, (w/o enclosures)
Patricia Holahan, Acting Deputy Regional Administrator, NRC Region II, (w/o enclosures)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2,
David Lew, Deputy Regional Administrator, NRC Region I (w/o enclosures)

Enclosure 1

**Revised Response to NRC Request for Additional Information RAI No. 372,
Question 13.03-53, Emergency Planning,
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No. 372

Question 13.03-53

Subject: Onsite Emergency Organization

Based on the staff's review of the applicant's prior responses to RAIs (i.e., Question 13.03-40(B)) and the language contained in the CCNPP Unit 3 Emergency Plan (e.g., Section H.4 and Table B-1b footnote), the staff concludes that the applicant did not provide an adequate basis for the elimination of 30-minute responders proposed in Table B-1b. Specifically, the applicant's justification for the elimination of 30-minute responders includes several statements that do not provide the staff with assurances that minimum on-shift and augmented staffing can be activated timely following the declaration of an emergency at CCNPP Unit 3. These statements include references to the "unlikelihood of a radiological event occurring," the "unlikelihood of fuel damage or a radiological release," the "lack of significance of performing a function at the onset of an event with no threat," and an inability to augment staffing in 60 minutes due to weather conditions and traffic.

The staff expects the applicant for the proposed CCNPP Unit 3 site to provide an adequate description of its augmentation capability in its emergency plan and responses to RAIs, without regard to the likelihood whether an event will occur, radiological conditions, time of day, weather conditions, and availability of personnel. With that said, the staff recognizes that circumstances not under the applicant's control may occasionally cause a delay in gathering the required minimum number of staff. However, the persistent inability to meet the minimum staffing commitment by the applicant within the specified timeframes during drills, exercises, and actual events, for whatever cause, is a regulatory concern that warrants corrective action.

Provide an adequate justification for the elimination of 30-minute responders and revise the cited language to clearly reflect the basis for the augmentation capability.

Revised Response

Justification for the Elimination of 30-Minute Responders

The justification for the elimination of 30-minute responders is provided in the Calvert Cliffs Nuclear Power Plant Unit 3 ERO On-Shift Staffing Report Revision 0. The on-shift staffing analysis report follows the methodology of NEI 10-05 using a functional assessment of personnel assignments. The on-shift staffing analysis report has been added to the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA) Part 5, Emergency Plan (EP), as an annex, in accordance with 10 CFR 50 Appendix E IV.A.9.

The NEI 10-05 shift staffing study assumptions (Section 3.5.1.9) specify a period of 90 minutes for the on-shift personnel to take response actions without the support of the augmenting ERO. The response actions performed by the minimum shift staff for the 90 minute duration have been documented in the report without task overlap. This is the technical basis that provides the justification that 30 minute responders are not required.

COLA Impact

The Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Emergency Response Organization (ERO) On-Shift Staffing Analysis Report is provided in Enclosure 2.

The CCNPP Unit 3 COLA Part 5, Emergency Plan, has been revised as follows:

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LIST OF ANNEXES

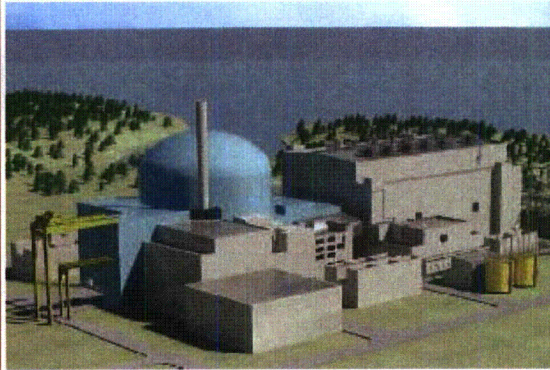
The Unit Annexes subject to the requirements of this plan are as follows:

Calvert Cliffs Nuclear Power Plant Unit 3 Emergency Response Plan Annex

Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 ERO On-Shift Staffing Analysis Report Annex

Enclosure 2

**Calvert Cliffs Nuclear Power Plant, Unit 3
Emergency Response Organization (ERO) On-Shift Staffing Analysis Report**



Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3

ERO On-Shift Staffing Analysis Report

Revision 0

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1 INTRODUCTION

The requirements for an on-shift emergency response organization are provided in 10 CFR 50.47(b)(2) and 10 CFR 50 Appendix E. §50.47(b) states, in part, the following:

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times...

§50 Appendix E.IV, Content of Emergency Plans, subsection A states:

The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's ERO and the means for notification of such individuals in the event of an emergency.

§50.47(b) states that on-shift staffing levels must be adequate, but provides no specific definition of the term "adequate" for use in this context. §50 Appendix E.IV likewise does not specify a basis for the composition or assignments of the on-shift emergency response organization (ERO).

NUREG-0654, which is used for the review and approval of emergency plans, provides general guidance for what constituted adequate on-shift staffing by way of a table, but approval and implementation of this table has not been consistent throughout the industry as it also is not developed upon a technical basis. The NRC states that licensees must have enough on-shift staff to perform specified tasks in various functional areas of emergency response. All shifts must have the capability to perform these emergency functions 24 hours a day, 7 days a week, to minimize the impact of radiological emergencies and to provide for the protection of public health and safety.

As part of the overall Emergency Preparedness rulemaking published in November of 2011, the Commission amended §50, Appendix E, Section IV.A, "Organization," to address concerns regarding the assignment of tasks or responsibilities to on-shift ERO personnel that would potentially overburden them and prevent the timely performance of their emergency plan functions. §50 Appendix E.IV subsection A.9 was added to state:

*By **December 24, 2012**, for nuclear power reactor licensees, a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.*

In conjunction with the new rule, the NRC issued, Interim Staff Guidance (ISG) NSIR/DPR-ISG-01. ISG Section IV.C provides specific detail on the criteria and acceptable methods for the conduct of the on-shift staffing analysis, including the endorsement of NEI 10-05. The NEI analysis methodology composed of the following:

- Identification of the on-shift ERO staffing and response time requirements.
- Identification of the site specific event scenarios described in the ISG.
- Documentation of a Task Analysis (TA) for each event scenario.
- Documentation of a Time Motion Study (TMS), if deemed necessary.

The ISG considers the analysis report to be the technical basis for the on-shift staffing, and requires that the results be incorporated into the Emergency Plan as a part of the formal licensee licensing bases.

2 ON-SHIFT STAFFING COMPLEMENT

Only personnel required to be on-shift are credited in the staffing analysis. The on-shift personnel complement is limited to the minimum required number and composition as described in the CCNPP Unit 3 COLA Emergency Plan.

Functional Area	Major Tasks	Emergency Positions	On-Shift Staff
1. Plant Operations and Assessment of Operational Aspects	Control Room Staff	Shift Manager	1
		Control Room Supervisor	1
		Reactor Operator	2
		Auxiliary Operator	2
2. Emergency Direction and Control	Command and Control /Emergency Operations	Shift Manager	1 ^(a)
3. Notification & Communication	State/local	State/local Communicator	1
	Federal	ENS Communicator	1
4. Radiological Accident Assessment and Support of Operational Accident Assessment	Dose Assessment	RP Technician	1
	Onsite Surveys	RP Technician	1
	In-plant Surveys	RP Technician	1
	Chemistry	Chemistry Technician	1
5. Plant System Engineering, Repair and Corrective Actions	Tech Support	Shift Technical Assistant	1
	Repair and Corrective Actions	Mechanical Maintenance	1 ^(b)
		Electrical Maintenance	1 ^(b)
		I&C Maintenance	1 ^(b)
6. In-Plant Protective Actions	Radiation Protection	RP Personnel	2 ^(b)
7. Fire Fighting	--	Fire Brigade Leader	1
		Fire Brigade	4
8. First Aid and Rescue Operations	--	Plant Personnel	2 ^(b)
9. Site Access Control and Personnel Accountability	Security & Accountability	Security Shift Supervisor	1
		Security Team Personnel	(c)
TOTAL:			19

(a) The Shift Manager shall fill the role of Emergency Director prior to TSC activation.

(b) May be filled by personnel filling another emergency position having functional qualifications.

(c) Per CCNPP Unit 3 Security Plan.

3 EVENTS

3.1 Correlation of U.S. EPR Classification of Transients and Accidents to Traditional Frequency Group Definitions

3.1.1 FSAR Chapter 15 transient and accident events are provided in individual categories as specified by Regulatory Guide 1.70, Revision 2. Events evaluated are assigned to one of the following applicable categories:

1. Decrease in reactor coolant temperature: Reactor vessel water (moderator) temperature reduction results in an increase in core reactivity. This could lead to fuel-cladding damage.
2. Increase in reactor pressure: Nuclear system pressure increases threaten to rupture the reactor coolant pressure boundary (RCPB). Increasing pressure also collapses the voids in the core-moderator, thereby increasing core reactivity and power level that could threaten fuel cladding due to overheating.
3. Decrease in reactor coolant system flow rate: A reduction in the core coolant flow rate could overheat the cladding as the coolant becomes unable to adequately remove the heat generated by the fuel.
4. Reactivity and power distribution anomalies: Transient events included in this category are those that could cause rapid increases in power due to increased core flow disturbance events. Increased core flow reduces the void content of the moderator increasing core reactivity and power level.
5. Increase in reactor coolant inventory: Increasing coolant inventory could result in excessive moisture carryover to components such as the main turbine, feedwater turbines, etc.
6. Decrease in reactor coolant inventory: Reductions in coolant inventory could threaten the fuel as the coolant becomes less able to remove heat generated in the core.
7. Radioactive release from subsystems and components: Loss of integrity of a radioactive containment component is postulated.
8. Anticipated transients without scram (ATWS): To determine the capability of plant design to accommodate an extremely low probability event, a multi-system maloperation situation is postulated.

3.1.2 Each initiating event within the major categories is assigned to one of the following frequency groups:

1. Incidents of moderate frequency - these are incidents that may occur during a calendar year to once per lifetime. This event is referred to as an "anticipated (expected) operational transient."
2. Infrequent incidents - these are incidents that may occur during the life of the particular plant. This event is referred to as an "abnormal (unexpected) operational transient."

3. Limiting faults - these are occurrences that are not expected to occur but are postulated because their consequences may result in the release of significant amounts of radioactive material. This event is referred to as a "design basis (postulated) accident."

3.1.3 For the US EPR, each initiating event is categorized as an anticipated operational occurrence (AOO), a postulated accident (PA), or a beyond design basis event (DBA).

1. AOOs, as defined in Appendix A to 10 CFR 50, are those conditions of normal operation that are expected to occur one or more times during the life of the nuclear plant unit. The Standard Review Plan (SRP) presented in NUREG-0800 refers to AOOs as incidents of moderate frequency (i.e., events that are expected to occur several times during the plant's lifetime) and infrequent events (i.e., events that may occur during the lifetime of the plant).
2. PAs are unanticipated occurrences; they are postulated to occur but not expected to occur during the life of the nuclear plant unit.

AOOs and PAs for the U.S. EPR fall into one of the following event types:

- Radioactive release from a subsystem or component
- Increase in heat removal by the secondary system
- Decrease in heat removal by the secondary system
- Decrease in RCS flow rate
- Reactivity and power distribution anomaly
- Increase in RCS inventory
- Decrease in RCS inventory

Thus, PAs for the U.S. EPR are consistent with the Category IV – Limiting Faults required to be analyzed by the NRC ISG and NEI 10-05.

3.2 List of Potential Events to be Analyzed

Note: At least one of the DBA scenarios must result in a General Emergency with offsite radiological doses that exceed the EPA PAGs and necessitate PARs.

US EPR FSAR Table 15.0-1, U.S. EPR Initiating Events, provides the following event classifications:

FSAR 15.0.3 – Radioactive Release from Subsystem or Component

Note: FSAR sections 15.0.3.1 thru 4 do not contain event specific documentation for this area.

5. SBLOCA outside containment (See 15.6.2) **DBA (PA)**
6. SG tube failure (See 15.6.3) **DBA (PA)**
7. MSL failure outside containment (See 15.1.5) **DBA (PA)**
8. RCP locked rotor (See 15.3.3) **DBA (PA)**
9. RCCA ejection (See 15.4.9) **DBA (PA)**

- 10. Fuel handling accident.....DBA (PA)
- 11. LBLOCA (See 15.6.5).....DBA (PA)

FSAR 15.1 – Increase in Heat Removal by Secondary System

- 1. Decrease in feedwater temperature.....AOO
- 2. Increase in feedwater flowAOO
- 3. Increase in steam flow.....AOO
- 4. Inadvertent opening of SG relief or safety valve.....AOO
- 5. Steam system piping failures inside and outside of containment (MSLB).....PA

FSAR 15.2 – Decrease in Heat Removal By Secondary System

- 1. Loss of external load.....AOO
- 2. Turbine TripAOO
- 3. Loss of condenser vacuumAOO
- 4. Inadvertent MSIV closure.....AOO
- 5. BWR Steam pressure regulator failure.....N/A
- 6. Loss of non-emergency AC powerAOO
- 7. Loss of normal feedwater flowAOO
- 8. Feedwater line breaks inside and outside containment (FWLB).....PA

FSAR 15.3 – Decrease in RCS Flow Rate

- 1. Partial loss of forced reactor coolant flow.....AOO
- 2. Complete loss of forced reactor coolant flow.....AOO
- 3. RCP locked rotorPA
- 4. RCP shaft breakPA

FSAR 15.4 – Reactivity and Power Distribution Anomaly

- 1. Uncontrolled RCCA withdrawal from subcritical or low power startup condition ...AOO
- 2. Uncontrolled RCCA withdrawal at powerAOO
- 3. Control rod misoperation (system malfunction or operator error)AOO
- 4. Startup of RCP in inactive loopAOO
- 5. BWR flow controller malfunctionN/A
- 6. Inadvertent decrease in boron concentration in RCSAOO
- 7. Inadvertent loading and operation of fuel assembly in improper positionAOO
- 8. RCCA ejection.....PA
- 9. BWR rod drop accidents.....N/A

FSAR 15.5 – Increase in RCS Inventory

1. Inadvertent operation of ECCS or EBSAOO
2. CVCS malfunction that increases reactor coolant inventoryAOO

FSAR 15.6 – Decrease in RCS Inventory

1. Inadvertent opening of PSRVAOO
2. SBLOCAPA
3. SG tube failurePA
4. BWR MSL failure outside containmentN/A
5. LBLOCAPA

FSAR 15.7 – Radioactive Release from Subsystem or Component

1. Radioactive Gas Waste System Leak or FailureN/A
2. Radioactive Liquid Waste System Leak or FailureN/A
3. Postulated Radioactive Releases due to Liquid-Containing Tank FailuresN/A
4. Radiological Consequences of Fuel Handling AccidentsSee 15.0.3.10
5. Spent Fuel Cask Drop AccidentsSee 15.0.3.10

Additionally, the following events must be analyzed to comply with the interim staff guidance (ISG) for the new on-shift staffing rule in 10 CFR 50 Appendix E.

1. Design Basis Threat (DBT)
2. Probable Aircraft Threat (PAT)
3. Control Room Evacuation Due to Fire
4. Station Blackout (SBO)
5. Appendix R Fire Response
6. SAMG

3.3 Disposition of Events

U.S. EPR FSAR Chapter 15 was used to identify the bounding postulated accident events. Those postulated accident events were then evaluated for ECL determination using NEI 99-01 as a reference guideline (Plant specific EALs for CCNPP Unit 3 have not been developed at the time of this analysis). The results of the event evaluations are listed below.

3.3.1 FSAR 15.1 – Increase in Heat Removal by Secondary System

With the exception of the steam system piping failures inside and outside of containment, the events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

FSAR 15.1.5 – Main Steam Line Break (MSLB): Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response for this event are SA9 (Alert) based on plant conditions, FS1 (Site Area Emergency) based on fission product barriers, AA3 (Alert) based on in-plant radiation levels and AS1 (Site Area Emergency) based on off-site radiological release.

The limiting ECL for this event is a Site Area Emergency, and it is therefore carried forward in the analysis.

3.3.2 FSAR 15.2 – Decrease in Heat Removal by Secondary System

With the exception of the feedwater line breaks inside and outside containment, the events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

FSAR 15.2.8 – Large Feedwater Line Break (FWLB): This event is characterized by an initial primary side cooldown with resultant increase in reactor core power. This response is similar to that of a small steam line break (Section 15.1.5) in consequence and operator action. Therefore, the analyses to verify compliance with specified acceptable fuel design limits (SAFDLs) for the spectrum of steam line break events bound this event. This event is therefore not carried forward in the analysis.

3.3.3 FSAR 15.3 – Decrease in RCS Flow Rate

With the exception of the recirculation RCP rotor seizure and shaft break events, the events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

FSAR 15.3.3 – RCP Locked Rotor: Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are AA3 (Alert) based on in-plant radiation levels and AA1 (Alert) based on off-site radiological release.

The limiting ECL for this event is an Alert, and it is therefore carried forward in the analysis.

FSAR 15.3.4 – RCP Shaft Break: Although the shaft break event leads to a higher reverse flow rate in the affected loop when compared to the rotor seizure event, maximum Δ DNBR occurs prior to significant reverse flow in either event. Because core flow decreases faster for the rotor seizure event, it bounds the shaft break event for Δ DNBR and is therefore not carried forward in the analysis.

3.3.4 Reactivity and Power Distribution Anomaly – FSAR 15.4

With the exception of the RCCA ejection accident, the events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

FSAR 15.4.8 – RCCA Ejection (REA): Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are SU4 (Unusual Event) based on plant conditions, FS1 (Site Area Emergency) based on fission product barriers, AA3 (Alert) based on in-plant radiation levels and AS1 (Site Area Emergency) based on off-site radiological release.

The limiting ECL for this event is a Site Area Emergency, and it is therefore carried forward in the analysis.

3.3.5 FSAR 15.5 – Increase in RCS Inventory

The events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

3.3.6 Decrease in RCS Inventory – FSAR 15.6

FSAR 15.6.1 – Inadvertent Opening of PSRV: This event is not a postulated accident (PA) and is therefore not carried forward in the analysis.

FSAR 15.6.2 – Small Break Loss of Coolant Accident (SBLOCA): Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are SU4 (Unusual Event) based on plant conditions, FS1 (Site Area Emergency) based on fission product barriers, AA3 (Alert) based on in-plant radiation levels and AG1 (General Emergency) based on off-site radiological release.

The limiting ECL for this event is a General Emergency, and it is therefore carried forward in the analysis.

FSAR 15.6.3 – Steam Generator Tube Rupture (SGTR): Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are SU4 (Unusual Event) based on plant conditions, FS1 (Site Area Emergency) based on fission product barriers, AA3 (Alert) based on in-plant radiation levels and AS1 (Site Area Emergency) based on off-site radiological release.

The limiting ECL for this event is a Site Area Emergency, and it is therefore carried forward in the analysis.

FSAR 15.6.5 – Large Break Loss of Coolant Accident (LBLOCA): Applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are SA1 (Alert) based on plant conditions, FS1 (Site Area Emergency) based on fission product barriers, AA3 (Alert) based on in-plant radiation levels and AS1 (Site Area Emergency) based on off-site radiological release.

The limiting ECL for this event is a Site Area Emergency, and it is therefore carried forward in the analysis.

3.3.7 Radioactive Release from Subsystem or Component – FSAR 15.7

With the exception of the fuel handling and spent fuel cask drop accidents, the events in this group are not postulated accidents (PAs) and are therefore not carried forward in the analysis.

FSAR 15.7.4 – Fuel Handling Accident (FHA): This accident is postulated to occur either in the Containment Building or in the Fuel Building. Fuel handling activities performed in the Containment Building during an outage would include numerous extra personnel available for event response. Since there will not be a time during refueling activities in the Containment Building when only the minimum on-shift ERO is present, the fuel handling accident in this area is not included in the on-shift staffing analysis.

For the FHA in the Fuel Building, applicable EAL thresholds identifiable by the shift prior to the augmented ERO response are AA3 (Alert) based on in-plant radiation levels and AG1 (General Emergency) based on off-site radiological release.

The limiting ECL for this event is a General Emergency, and it is therefore carried forward in the analysis.

FSAR 15.7.5: Other fuel handling accidents, such as a spent fuel cask falling or tipping into the spent fuel pool (SFP), are prevented by the design of the spent fuel handling equipment. The spent fuel cask and transfer machine are located in a separate room from the SFP area, which prevents a cask from being in the SFP area altogether.

3.3.8 Design Basis Threat (DBT)

This event results in a Site Area Emergency ECL based on EAL HS1 and is carried forward in the analysis.

3.3.9 Probable Aircraft Threat (PAT)

This event results in an Alert ECL based on EAL HA1 and is carried forward in the analysis.

3.3.10 Control Room Evacuation Due to Fire

This event results in an Alert ECL based on EAL HA6 and is carried forward in the analysis.

3.3.11 Station Blackout (SBO)

This event results in a Site Area Emergency ECL based on EAL SS1 and is carried forward in the analysis.

3.3.12 Appendix R Fire Response

The U.S. EPR is a Regulatory Guide 1.189 plant (as opposed to an Appendix R plant). Regulatory Guide 1.189 requirements for post-fire shutdown are similar, albeit more conservative than Appendix R, and the analytical techniques employed to demonstrate compliance will be almost identical.

A detailed design analysis has not been performed for U.S. EPR at this stage of the COLA and, hence, no post-fire shutdown analysis has been developed. Therefore, the control room fire scenario requiring evacuation and plant shutdown at the remote stations is anticipated to be the most severe Appendix R scenario with regard to operator actions.

No additional Appendix R fire response scenarios are carried forward in the analysis.

3.3.13 SAMG

All of the events that progress to SA entry (650°C) inside of approximately 3 hours require a combination of primary or secondary break and a loss of injection capability (loss of all AC power).

None of the FSAR limiting fault events result in entry conditions into SAMG procedures prior to the ERO augmentation. Entry conditions into SAMG procedures for all of the other events analyzed are not expected to occur until after the augmenting ERO has responded.

It is therefore concluded that the on shift ERO would not be called upon to perform SAMG functions and activities for the events analyzed for this report prior to the assistance of the greater ERO in the emergency facilities being available. An event that results in the conditions necessary for entry into SAMG is not carried forward in the analysis.

3.4 NEI 10-05 Appendix A Table, Analyzed Events and Accidents

Analysis #	Summary Description of Event or Accident	Plant Mode	Reference Document(s)	ECL	Analysis Required?
1	Main Steam Line Break (MSLB)	1	FSAR 15.1.5	SAE	Yes
2	Main Feedwater Line Break (FWLB)	1	FSAR 15.2.8	SAE	No ¹
3	Reactor Coolant Pump (RCP) Locked Rotor	1	FSAR 15.3.3	Alert	Yes
4	Reactor Coolant Pump (RCP) Shaft Break	1	FSAR 15.3.4	Alert	No ²
5	RCCA Ejection (REA)	1	FSAR 15.4.8	SAE	Yes
6	Small Break Loss of Coolant Accident (SBLOCA)	1	FSAR 15.6.2	GE	Yes
7	Steam Generator Tube Rupture (SGTR)	1	FSAR 15.6.3	SAE	Yes
8	Large Break Loss of Coolant Accident (LBLOCA)	1	FSAR 15.6.5	SAE	Yes
9	Fuel Handling Accident (FHA) in the Fuel Handling Area	1	FSAR 15.7.4	GE	Yes
10	Dropped Spent fuel Cask	1	FSAR 15.7.5	None	No
11	Design Basis Threat (DBT)	1	None	SAE	Yes
12	Probable Aircraft Threat (PAT)	1	None	Alert	Yes
13	Control Room Evacuation Due to Fire	1	None	Alert	Yes
14	Station Blackout (SBO)	1	None	SAE	Yes
15	Appendix R Fire Response	1	None	Alert	No ³
16	SAMG	1	None	GE	No ⁴

Notes:

1. The MSLB event bounds the FWLB event and is not analyzed separately in this report.
2. The RCP locked rotor event bounds the RCP shaft break event and is not analyzed separately in this report.
3. The control room fire and evacuation is the limiting Appendix R/ RG 1.189 fire response scenario with regard to complex actions by the on-shift ERO.
4. The entry conditions for SAMG actions do not occur prior to the arrival of the augmenting ERO for any of the analyzed events.

3.5 Scope/Sequence of Events

3.5.1 General Assumptions and Limitations

1. On-shift personnel can report to their assigned response locations within timeframes sufficient to allow for performance of assigned actions. The following are the typical locations of the on shift personnel:
 - Shift Manager Control Room
 - Control Room Supervisor Control Room
 - Shift Technical Advisor Control Room
 - Reactor Operator #1 – ATC Control Room
 - Reactor Operator #2 – BOP Control Room
 - Auxiliary Operator #1 Work Control Center
 - Auxiliary Operator #2 Work Control Center
 - State/Local Communicator Control Room
 - ENS Communicator Work Control Center
 - RP Technician #1 RP Office
 - RP Technician #2 RP Office
 - RP Technician #3 RP Office
 - Chemistry Technician Chemistry Office
 - Fire Brigade Leader Fire Department Building
 - Fire Brigade Member #1 Fire Department Building
 - Fire Brigade Member #2 Fire Department Building
 - Fire Brigade Member #3 Fire Department Building
 - Fire Brigade Member #4 Fire Department Building
 - Security Shift Supervisor Central Alarm Station
2. The on-shift staff possesses the necessary Radiation Worker qualifications to obtain normal dosimetry and to enter Radiologically Controlled Areas (but not high, locked high or very high radiation areas) without the aid of a Radiation Protection Technician.
3. It is assumed that 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. It is assumed that personnel assigned to the major response area of Firefighting meet the requirements and guidance established by NRC regulations and are able to satisfactorily perform the functions and tasks necessary to fight a fire. Staff performance within this area is regularly analyzed through other station programs (e.g., fire drills) and will not be evaluated as part of this assessment, unless a role/function/task from another major response area is assigned as a collateral duty.
5. The on-site security organization is able to satisfactorily perform all tasks related to Site and Protected Area Access Controls, under all event or accident conditions. 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.
6. Individuals holding the position of Radiation Protection Technician or Chemistry Technician are qualified to perform the range of tasks expected of their position.
7. 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. Examples include making a plant page announcement or placing a call for assistance to an offsite resource such as local law enforcement. This assumption does not apply to emergency notification to an Offsite Response Organization (ORO) or the NRC.
8. 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. Examples include performing a peer check on a recommended emergency classification or notification form for transmittal to offsite authorities.
9. The analyzed events occur during off-normal work hours at a time when augmented ERO responders are not at the site (e.g., during a backshift, weekend or holiday). The ERO augmentation time is based on the time of event declaration until the time of turnover of the function/responsibility. Specifically, any time needed by the augmenting ERO to acquire materials or prepare for turnover is accounted for.

Section H.4 of the CCNPP Unit 3 emergency plan states that the ERO augmentation process is capable of activating the EOF, TSC and OSC with the required minimum staffing and relieving the shift of the applicable response tasks within 75 minutes of the event.

For purposes of this analysis, 90 minutes will be used as the time period for the conduct of on-shift ERO response actions.

3.5.2 Event Specific Information

Note: The exclusion area boundary (EAB) for U.S. EPR FSAR event analyses is 0.5 miles. This distance is considered the site boundary for CCNPP Unit 3 for event classification level (ECL) determination purposes.

1. Analysis Event #1 – Main Steam Line Break (MSLB)

The limiting event for MSLB scenario is a 1.72 ft² break (double-ended guillotine break) in a main steam line (MSL) outside the Reactor Building in the valve compartment in Safeguard Building Division 4, upstream of the MSIV, with offsite power remaining available.

The releases from the unaffected SGs terminate in eight hours (time of RHR cut-in), and those from the affected SG terminate in nine hours (time at which the RCS temperature drops below 212°F). Worse case TEDE doses in Rem are 5.8 at the EAB and 4.5 in the main control room.

2. Analysis Event #3 – RCP Locked Rotor

This event is postulated to be an instantaneous seizure of the RCP rotor that leads to cladding failure due to the onset of DNB. It is conservatively predicted that 9.5 percent of the core undergoes DNB-induced cladding failure. The fuel centerline melt SAFDL is not challenged because there is no significant increase in core power for this event. This event does not challenge pressure limits because the turbine trip subsequent to the reactor trip will reduce the over-pressurization due to the continued heat removal by the turbine. The delay between Reactor Trip (RT) and Turbine Trip (TT) is such that adequate secondary side heat removal is maintained.

The locked rotor causes a rapid decrease in the affected loop flow rate and a flow reversal within 2 seconds. A partial RT occurs when the flow reaches the low flow setpoint. A full RT signal is generated when the flow reaches the safety-related, low-low flow setpoint and the reactor power is above the P3 permissive setpoint. The RT is coincident with a LOOP.

The MSIVs close and secondary side releases are initiated upon opening of the MSRTs. The MSRCV in Loop 3 is assumed to fail in the open position, with releases via this MSRT terminated in 15 minutes by closure of the MSRIV when the MSL pressure drops below about 590 psia.

There is a loss of one (Division 2) of the two redundant charcoal filtration systems of the MCR, which is assumed to fail and be unavailable for the accident duration.

The releases from the unaffected SGs terminate in eight hours (from initial MSRT opening to the end of cooldown), and through the stuck-open MSRCV and silencer (SG 3), modeled as an exponential release leading to the atmospheric discharge of about 99.5 percent of the contents within 15 minutes. Worse case TEDE doses in Rem are 2.25 at the EAB and 1.31 in the main control room.

3. Analysis Event #5 – RCCA Ejection (REA)

This event is defined as the mechanical failure of a RCCA drive mechanism casing, located on top of the pressure vessel, leading to complete ejection of the control rod and drive shaft to the fully withdrawn position.

The following conditions and system failures are considered in the analysis:

- LOOP coincident with the REA.
- Loss of one (Division 2) of the two redundant charcoal filtration systems of the MCR, which is assumed to fail and be unavailable for the accident duration.

The atmosphere release points are from containment leakage to the base of vent stack and from secondary-side leakage via the four silencers on top of Safeguard Building Divisions 1 and 4 (with equal steaming rates via each MSRT). Worse case TEDE doses in Rem are 5.66 at the EAB and 4.33 in the main control room.

4. Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

The postulated failures of small lines carrying primary coolant outside containment evaluate a rupture in the nuclear sampling system (NSS) and in the chemical and volume control system (CVCS). The NSS line break, with the relatively significant iodine release, leads to the bounding dose to the MCR operators and at the offsite receptors. Because no operator action is credited initially, reactor coolant is assumed to discharge outside containment for 30 minutes.

This event consists of a double-ended guillotine break of one of the three NSS one-quarter inch sampling lines to the RCS located between the containment penetration and the heat exchanger, while the sampling system is in operation and the isolation valves are open.

The postulated break does not cause fuel damage since the loss of RCS inventory is relatively small and can be compensated by the safety injection system.

Worse case TEDE doses in Rem are 1.8 at the EAB and 0.065 in the main control room.

5. Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

This event is defined as the double-ended rupture of a single SG tube. The tube rupture is postulated to occur in the shortest SG tube, near the tube sheet location, to maximize break flow. Radiation monitors located in the steam lines and blowdown lines detect increased activity soon after the break occurrence and identify the affected SG.

One charging pump cannot keep up with the break flow and the PZR level continues to decrease. A second charging pump (normally on standby) is automatically started on low-PZR level. The letdown flow is automatically reduced to its minimum value in response to the decreasing level. The charging pumps take suction from the volume control tank. The pumps are automatically switched to the in-containment refueling water storage tank (IRWST) on low level in the volume control tank. The combined charging pumps are able to offset the coolant loss through a single tube rupture. The operator trips the reactor before the RCS pressure decreases sufficiently to trigger an automatic RT.

The analysis shows that the limiting case for radiological release is one in which the charging pumps are operating, LOOP occurs at RT, and a single failure occurs in the MSRT of the affected SG. The MSRCV associated with the affected SG sticks fully open. This action releases steam to the environment until the MSRV closes automatically on low SG pressure. In addition, it is assumed that one emergency feedwater (EFW) pump is in maintenance.

The steam release is initially via the condenser and vent stack for 30 minutes, while the plant is at full power. The release is via the SG MSRTs and silencers thereafter. Worse case TEDE doses in Rem are 1.11 at the EAB and 0.6 in the main control room.

6. Analysis Event #8 – Large Break Loss of Coolant Accident (LBLOCA)

This event is defined as LOCA at a rate in excess of the RCS makeup capability which occurs coincident with a LOOP. The most limiting LBLOCA break occurs in a cold-leg pipe between the RCP discharge and the reactor pressure vessel.

The U.S. EPR is designed with an automatic reactor coolant pump trip on coincident safety injection signal and low RCP differential pressure. This feature causes the reactor coolant pumps to trip in the event of a LOCA even if offsite power is available.

Of the four trains of pumped safety injection, one train is assumed conservatively to be unavailable due to maintenance and another train is subject to single failure. On this basis, two of the four trains start and deliver flow. One of the two trains is assumed conservatively to inject into the RCS cold leg with the break. Because the ECCS connection is near the break, all of the ECCS flow delivered to the broken RCS cold leg spills into the containment.

At the start of the accident, the containment is assumed to be in the purge mode. The purge flow is to the vent stack, and is terminated within 10 s because of PC isolation. After purge-flow termination, leakage from the primary containment is based on the proposed limit of 0.25 percent per day for the first 24 hours, and 50 percent of this value thereafter. Two release pathways are considered in the analysis, primary containment leakage and ESF component leakage. Worse case TEDE doses in Rem are 12.2 at the EAB and 4.0 in the main control room.

7. Analysis Event #9 – Fuel Handling Accident (FHA) in the Fuel Building

The fuel handling accident in the Fuel Building is postulated to take place at the start of fuel movement, 34 hours after reactor shutdown (all rods in). In this event, it is assumed that the peak-powered assembly, operating at a radial peaking factor of 1.7, drops onto other assemblies. This action leads to fuel damage equivalent to cladding failure of all 265 fuel rods within the dropped assembly and to the ensuing release of the entire fuel assembly gap inventory.

Shift staffing is at minimum with the exception of the Fuel Handling crew, which includes an SRO and an RP Technician dedicated to the fuel moves.

The following conditions and system failures are considered in this analysis:

- LOOP coincident with the FHA.
- Loss of one of the two redundant charcoal filtration systems of the MCR (the one in Division 2), which is assumed to fail and be unavailable for the accident duration.

The water depth through which the released activity bubbles to the water surface is in excess of 23 feet. The radioactive material that escapes the fuel pool is assumed to be released to the environment over a two-hour interval. 46.5 percent of the airborne activity within the Reactor Building is released within 15 minutes to a 99.3 percent release within two hours. The atmospheric release is assumed to occur at the base of the vent stack. Filtration of the release is not credited. Worse case TEDE doses in Rem are 5.62 at the EAB and 0.50 in the main control room.

10. Analysis Event #11 – Design Basis Threat (DBT)

The event consists of notification to the Shift Manager from the Security Shift Supervisor that a hostile action is occurring at or inside the Protected Area. A hostile force will breach the Protected Area fence but is neutralized with no adverse consequences to plant safety. Damage inflicted on plant systems, structures and components is not sufficient to prevent safe shutdown or cause a radiological release. There is no fire significant enough to warrant firefighting efforts prior to the arrival of offsite resources and/or the augmented ERO.

The event must account for the expected constraints on the movement of personnel (e.g., movement not allowed, limited movement using the 2-person rule, etc.). Specifically, individuals must usually be in, or readily able to respond to, assigned response locations before being credited with performing a function/task that implements the emergency plan.

11. Analysis Event #12 – Probable Aircraft Threat (PAT)

This event includes all emergency response actions taken prior to an aircraft impact in accordance with RG 1.214 for an aircraft threat that is greater than 5 minutes, but less than 30 minutes, from the site, including the dispersal of the fire brigade away from target areas. These actions should generally reflect those listed in 10 CFR 50.54(hh)(1), as expanded upon in Regulatory Guide 1.214, and others required by the emergency plan.

The event consists of notification to the Shift Manager from the NRC Headquarters Operations Officer that a Probable Aircraft Threat has been declared for CCNPP Unit 3.

12. Analysis Event #13 – Control Room Evacuation Due to Fire

The event consists of a localized fire in the control room envelope that requires evacuation of the control room. Unit shutdown from outside the control room is required.

13. Analysis Event #14 – Station Blackout (SBO)

The event consists of a loss of offsite power and a failure of all emergency AC power sources resulting in a Station Blackout (Loss of all AC power).

4 ON-SHIFT STAFFING TASK ANALYSIS

Refer to Attachment 1, NEI 10-05 Appendix B On-Shift Staffing Analysis Results Tables, for additional documentation of the on-shift staffing task analysis results.

4.1 Non-Validated Task Analysis Results

Currently, no procedures or JPM exist for the CCNPP Unit 3 COLA application. Task performance validation is not evaluated as part of this analysis.

4.2 Potential Task Overlap Analysis Results (by position)

No potential overlaps were identified in the task analysis for the functions assigned to the on-shift personnel.

5 LIST OF REFERENCES

- 5.1 10 CFR 50.47(b)(2)
- 5.2 10 CFR 50 Appendix E Section IV.A.9
- 5.3 NSIR/DPR-ISG-01, Interim Staff Guidance – Emergency Planning for Nuclear Power Plants
- 5.4 NEI 10-05, Assessment of On-Shift Emergency Response Organization Staffing and Capabilities, Rev 0
- 5.5 U.S. FSAR, Chapter 15, Transient and Accident Analyses
- 5.6 CCNPP Unit 3 Emergency Plan

TABLE 1 – On-Shift Positions

Analysis Event #1 – Main Steam Line Break (MSLB)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table #/ Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #1 – Main Steam Line Break (MSLB)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #1 – Main Steam Line Break (MSLB)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #1 – Main Steam Line Break (MSLB)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #1 – Main Steam Line Break (MSLB)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

CCNPP Unit 3 On-Shift Staffing Analysis Report

TABLE 1 – On-Shift Positions

Analysis Event #3 – RCP Locked Rotor

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		N/A	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #3 – RCP Locked Rotor

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #3 – RCP Locked Rotor

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #3 – RCP Locked Rotor

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #3 – RCP Locked Rotor

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	N/A	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #5 – RCCA Ejection (REA)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #5 – RCCA Ejection (REA)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #5 – RCCA Ejection (REA)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #5 – RCCA Ejection (REA)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #5 – RCCA Ejection (REA)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 2 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #6 – Small Break Loss of Coolant Accident (SBLOCA)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	Shift Manager	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #7 – Steam Generator Tube Rupture (SGTR)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #8 – Large Break Loss of Coolant Accident (LBLOCA)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 4	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #8 – Large Break Loss of Coolant Accident (LBLOCA)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #8 – Large Break Loss of Coolant Accident (LBLOCA)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #8 – Large Break Loss of Coolant Accident (LOCA)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #8 – Large Break Loss of Coolant Accident (LBLOCA)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

CCNPP Unit 3 On-Shift Staffing Analysis Report

TABLE 1 – On-Shift Positions

Analysis Event #9 – Fuel Handling Accident (FHA)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 2 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		N/A	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		N/A	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		N/A	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		N/A	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	4 / 5	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 1 4 / 2	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	4 / 3	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	N/A	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #9 – Fuel Handling Accident (FHA)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	N/A	N/A
5.	Reactor Operator #2	Reactor Operator #2	N/A	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	N/A	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	N/A	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #9 – Fuel Handling Accident (FHA)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #9 – Fuel Handling Accident (FHA)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #9 – Fuel Handling Accident (FHA)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	Shift Manager	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

CCNPP Unit 3 On-Shift Staffing Analysis Report

TABLE 1 – On-Shift Positions

Analysis Event #11 – Design Basis Threat (DBT)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 7 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		N/A	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		N/A	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	N/A	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	N/A	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	N/A	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	N/A	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		N/A	N/A	No
15.	FBT Member #1	Section B Table B-1a		N/A	N/A	No
16.	FBT Member #2	Section B Table B-1a		N/A	N/A	No
17.	FBT Member #3	Section B Table B-1a		N/A	N/A	No
18.	FBT Member #4	Section B Table B-1a		N/A	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 16	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #11 – Design Basis Threat (DBT)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	N/A	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	N/A	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #11 – Design Basis Threat (DBT)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	N/A	N/A
2.	FBT Member #1	N/A	N/A
3.	FBT Member #2	N/A	N/A
4.	FBT Member #3	N/A	N/A
5.	FBT Member #4	N/A	N/A

Analysis Event #11 – Design Basis Threat (DBT)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #11 – Design Basis Threat (DBT)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	Shift Manager	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	N/A – site personnel in duck and cover	N/A
16.	Other: Security Contingency Plan Actions	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #12 – Probable Aircraft Threat (PAT)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	N/A	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	N/A	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	N/A	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		3 / 1	N/A	No
15.	FBT Member #1	Section B Table B-1a		3 / 2	N/A	No
16.	FBT Member #2	Section B Table B-1a		3 / 3	N/A	No
17.	FBT Member #3	Section B Table B-1a		3 / 4	N/A	No
18.	FBT Member #4	Section B Table B-1a		3 / 5	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 16	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #12 – Probable Aircraft Threat (PAT)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #12 – Probable Aircraft Threat (PAT)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	Preparations for possible large fires	N/A
2.	FBT Member #1	Preparations for possible large fires	N/A
3.	FBT Member #2	Preparations for possible large fires	N/A
4.	FBT Member #3	Preparations for possible large fires	N/A
5.	FBT Member #4	Preparations for possible large fires	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #12 – Probable Aircraft Threat (PAT)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #12 – Probable Aircraft Threat (PAT)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	N/A	N/A
16.	Other: Security Contingency Plan Actions	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

CCNPP Unit 3 On-Shift Staffing Analysis Report

TABLE 1 – On-Shift Positions

Analysis Event #13 – Control Room Evacuation Due to Fire

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1.A 2 / 1.B 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2.A 2 / 2.B	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4.A 2 / 4.B	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5.A 2 / 5.B	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	N/A	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 4	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	N/A	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		3 / 1	N/A	No
15.	FBT Member #1	Section B Table B-1a		3 / 2	N/A	No
16.	FBT Member #2	Section B Table B-1a		3 / 3	N/A	No
17.	FBT Member #3	Section B Table B-1a		3 / 4	N/A	No
18.	FBT Member #4	Section B Table B-1a		3 / 5	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		N/A	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #13 – Control Room Evacuation Due to Fire

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	A. Plant Oversight in CR	N/A
			B. Plant Oversight at SDP	N/A
2.	Unit Supervisor	Control Room Supervisor	A. Direct CR panel operations	N/A
			B. Direct SDP panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	A. CR panel operations	N/A
			B. SDP operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	A. CR panel operations	N/A
			B. SDP operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	Local operations at SDP	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #13 – Control Room Evacuation Due to Fire

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	Perform firefighting activities	N/A
2.	FBT Member #1	Perform firefighting activities	N/A
3.	FBT Member #2	Perform firefighting activities	N/A
4.	FBT Member #3	Perform firefighting activities	N/A
5.	FBT Member #4	Perform firefighting activities	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #13 – Control Room Evacuation Due to Fire

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #13 – Control Room Evacuation Due to Fire

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	N/A	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

TABLE 1 – On-Shift Positions

Analysis Event #14 – Station Blackout (SBO)

Line	On-Shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line#	Unanalyzed Task?	TMS Required?
1.	Shift Manager	Section B Table B-1a		2 / 1 5 / 1 5 / 3 5 / 5 5 / 8	N/A	No
2.	Control Room Supervisor	Section B Table B-1a		2 / 2	N/A	No
3.	Shift Technical Advisor	Section B Table B-1a		2 / 3	N/A	No
4.	Reactor Operator #1	Section B Table B-1a		2 / 4	N/A	No
5.	Reactor Operator #2	Section B Table B-1a		2 / 5	N/A	No
6.	Auxiliary Operator #1	Section B Table B-1a		2 / 6	N/A	No
7.	Auxiliary Operator #2	Section B Table B-1a		2 / 7	N/A	No
8.	State/Local Communicator	Section B Table B-1a		5 / 6 5 / 9	N/A	No
9.	ENS Communicator	Section B Table B-1a		5 / 10 5 / 13	N/A	No
10.	RP Technician #1	Section B Table B-1a	90	N/A	N/A	No
11.	RP Technician #2	Section B Table B-1a	90	4 / 4	N/A	No
12.	RP Technician #3	Section B Table B-1a	90	N/A	N/A	No
13.	Chemistry Technician	Section B Table B-1a	90	4 / 7	N/A	No
14.	Fire Brigade Leader	Section B Table B-1a		3 / 1	N/A	No
15.	FBT Member #1	Section B Table B-1a		3 / 2	N/A	No
16.	FBT Member #2	Section B Table B-1a		3 / 3	N/A	No
17.	FBT Member #3	Section B Table B-1a		3 / 4	N/A	No
18.	FBT Member #4	Section B Table B-1a		3 / 5	N/A	No
19.	Security Shift Supervisor	Section B Table B-1a		5 / 15 5 / 16	N/A	No

TABLE 2 – Plant Operations & Safe Shutdown

Analysis Event #14 – Station Blackout (SBO)

Minimum Operations Crew (One Unit – One Control Room)

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
1.	Shift Manager	Shift Manager	Plant Oversight	N/A
2.	Unit Supervisor	Control Room Supervisor	Direct CR panel operations	N/A
3.	Shift Technical Advisor	Shift Technical Advisor	STA Tasks	N/A
4.	Reactor Operator #1	Reactor Operator #1	CR panel operations	N/A
5.	Reactor Operator #2	Reactor Operator #2	CR panel operations	N/A
6.	Auxiliary Operator #1	Auxiliary Operator #1	In-plant / Local operations	N/A
7.	Auxiliary Operator #2	Auxiliary Operator #2	In-plant / Local operations	N/A

Other (non-Operations) Personnel

Line	Generic Title/Role	On-Shift Position	Task Description	Controlling Method
N/A	Mechanic	Auxiliary Operator #1	N/A	N/A
N/A	Electrician	Auxiliary Operator #2	N/A	N/A
N/A	I&C Technician	Auxiliary Operator #2	N/A	N/A

TABLE 3 – Firefighting

Analysis Event #14 – Station Blackout (SBO)

Line	Performed By	Task Description	Controlling Method
1.	Fire Brigade Leader	Prepare fire apparatus	N/A
2.	FBT Member #1	Prepare fire apparatus	N/A
3.	FBT Member #2	Prepare fire apparatus	N/A
4.	FBT Member #3	Prepare fire apparatus	N/A
5.	FBT Member #4	Prepare fire apparatus	N/A

TABLE 4 – Radiation Protection and Chemistry

Analysis Event #14 – Station Blackout (SBO)

[illegible]

TABLE 5 – Emergency Plan Implementation

Analysis Event #14 – Station Blackout (SBO)

Line	Function/Task	On-Shift Position	Controlling Method
1.	Declare the Emergency Classification Level (ECL)	Shift Manager	N/A
2.	Approve Offsite Protective Action Recommendations	N/A	N/A
3.	Approve content of State/local notifications	Shift Manager	N/A
4.	Approve extension to allowable dose limits	N/A	N/A
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	N/A
6.	ERO notification	State/Local Communicator	N/A
7.	Abbreviated NRC notification for DBT event	N/A	N/A
8.	Complete State/local notification form	Shift Manager	N/A
9.	Perform State/local notifications	State/Local Communicator	N/A
10.	Complete NRC event notification form	ENS Communicator	N/A
11.	Activate ERDS	N/A – always active	N/A
12.	Offsite radiological assessment	N/A	N/A
13.	Perform NRC notifications	ENS Communicator	N/A
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	N/A	N/A
15.	Personnel accountability	Security Shift Supervisor	N/A
16.	Other: Security Contingency Plan actions	Security Shift Supervisor	N/A

Notes: Line #3, #8 and #9 includes initial and follow-up State/local notifications.

Enclosure 3

**Table of Changes to CCNPP Unit 3 COLA Associated with the
Revised Response to RAI No. 372, Questions 13.03-53,
Calvert Cliffs Nuclear Power Plant, Unit 3**

**Table of Changes to CCNPP Unit 3 COLA Associated with the
Revised Response to RAI No. 372**

Change ID #	Subsection	Type of Change	Description of Change
Part 5 – Emergency Plan			
CC3-13-0047	Report entitled, "Development of Evacuation Time Estimates"	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-52 response involves a change to Section 1.3 of the Evacuation Time Estimates (ETE) report.
CC3-13-0047	Emergency Plan, Section E.6	Incorporate COLA markups associated with the response to RAI 372 Question 13.03-55.	The RAI 372 Question 13.03-55 response involved a change to Section E.6, "Notification of the Public" of the Emergency Plan.
CC3-13-0047	Emergency Plan Table B-1b, Section H.4	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-53 response involves changes to Emergency Plan Table B-1b, and Section H.4.
CC3-13-0047	Emergency Plan, Section H.2	Incorporate COLA markups associated with the response to RAI 372 Question 13.03-56.	The RAI 372 Question 13.03-56 response involved a change to Section H.2, "Emergency Operations Facility (EOF)" of the Emergency Plan.
CC3-13-0047	Emergency Plan, Section H.2	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-56 response involves changes to Emergency Plan Section H.2.
CC3-13-0047	Emergency Plan, Section I.4 and I.8	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-57 response involves changes to Emergency Plan Sections I.4 and I.8.
CC3-13-0047	Emergency Plan, Section P.6	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-58 response involves changes to Emergency Plan Section P.6, Supporting Emergency Response Plans.
CC3-13-0047	Emergency Plan Annex, Section 3.1	Incorporate COLA markups associated with the response to RAI 372 Question 13.03-54.	The RAI 372 Question 13.03-54 response involved a change to Section 3.1, "Emergency Action Levels (EALs)" of the Emergency Plan Annex.

Change ID #	Subsection	Type of Change	Description of Change
CC3-13-0061	Emergency Response Organization (ERO) On-Shift Staffing Analysis Report	Incorporate COLA markups associated with the response to RAI 372 Question 13.03-53.	The RAI 372 Question 13.03-53 response adds the Emergency Response Organization (ERO) On-Shift Staffing Analysis Report as an Annex to the CCNPP Unit 3 COLA Part 5 Emergency Plan.
Part 10 – Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) and ITAAC Closure			
GN-12-0182	Appendix A, License Condition 8	Incorporate COLA markups associated with the response to RAI 372 Questions 13.03-52, -53, -54, -55, -56, -57, and -58.	The RAI 372 Question 13.03-54 response involved a change to Part 10, Appendix A, License Condition 8 (Emergency Action Levels).
09-0100	Appendix A, License Condition 8	Incorporate COLA markups associated with the response to RAI 81 Question 13.03-4	The RAI 81 Question 13.03-4 response involved a change to Part 10, Appendix A, License Condition 8 (Emergency Action Levels). The RAI 372 Question 13.03-54 response added a sentence to the Proposed License Condition text of License Condition 8.