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Ref. # 10 CFR 50
10 CFR 52

March 28, 2013

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
COMBINED LICENSE APPLICATION PART 5 REVISION 3, UPDATE TRACKING REPORT REVISION 0

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein Update Tracking Report (UTR) Revision 0 for Part 5 of the Combined License Application (COLA) for Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4, Revision 3. The NRC amended 10 CFR 50 Appendix E as published in the Federal Register on November 23, 2011 (76 FR 72596). Luminant has revised the CPNPP Units 3 and 4 Emergency Plan to reflect that rule change, to make editorial corrections, and to ensure consistency with the CPNPP Units 1 and 2 Emergency Plan. The changes presented in the attachment to this letter will be incorporated in Revision 4 of the COLA currently scheduled for November 2013.

Should you have any questions regarding this UTR, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

There are no commitments in this letter.

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

Executed on March 28, 2013.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

Rafael Flores

Attachment: COL Application Part 5, Emergency Plan Revision 3, Update Tracking Report Revision 0

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NRO

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March 27, 2013

Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application

Part 5

Emergency Plan Revision 3

Update Tracking Report

Revision 0

Revision History

Revision	Date	Update Description
-	6/28/2012	COLA Revision 3 Transmittal See Luminant Letter no. TXNB-12023 Date 6/28/2012
	7/16/2012	Updated Sections: Appendix 1, II.D See Luminant Letter no. TXNB-12024 Date 7/16/2012 Incorporated responses to following RAIs No. 258
0	3/27/2013	Updated Section: Definition, Acronyms and Abbreviations, I.A, I.C, II.A, II.B, II.C, II.D, II.E, II.G, II.H, II.J, II.N, II.P, III.A, Appendix 2, Appendix 3, Appendix 8

Tracking Report Revision List

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
RCOL2_13.03-43	Appendix 1	A1-1 through A1-11 [A1-1 through A1-17]	Response to RAI No. 258 Luminant Letter no.TXNB-12024 Date 7/16/2012	Revised Appendix 1 of the Emergency Plan, EAL Differences and Deviations from NEI Guidance Table and added associated supplement.	-
RCOL2_13.03-44	II.D	II-36	Response to RAI No. 258 Luminant Letter no.TXNB-12024 Date 7/16/2012	Revised the first sentence of the third paragraph in Section D of the CPNPP 3 and 4 Emergency Plan.	-
RCOL2_13.03-45	Appendix 1	A1-1 through A1-11 [A1-1 through A1-17]	Response to RAI No. 258 Luminant Letter no.TXNB-12024 Date 7/16/2012	Revised Appendix 1 of the Emergency Plan, EAL Differences and Deviations from NEI Guidance Table and added associated supplement.	-
CTS-01524	Definition	vii	Editorial Correction	Changed "Definition" to "Definitions".	0
CTS-01524	Definition	x	Editorial Correction	Changed "intimidates" to "intimidate". Added "this may include".	0
CTS-01525	Acronyms and Abbreviations	xii [xiii]	Addition of new acronym	Added "DCBE DeCordova Bend Estates".	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01525	Acronyms and Abbreviations	xiii [xiv]	Addition of new acronym	Added "HAB Hostile Action-Based".	0
CTS-01525	Acronyms and Abbreviations	xiv [xv]	Addition of new acronym	Added "ORO Off-Site Response Organization".	0
CTS-01526	I.A	I-2	Reflection of EP rule changes	Revised to acknowledge the need to establish a unified approach to emergency preparedness and consider the incident command concepts incorporated into the State and local emergency plans.	0
CTS-01526	I.C.1	I-3	Reflection of EP rule changes	Added NSIR/DPR-ISG-01, Interim Staff Guidance (ISG)-01, "Emergency Planning for Nuclear Power Plants," Revision 0 dated November 2011 as Reference 2.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	I.C.1	I-3	Reflection of EP rule changes	Changed the Reference number from 2 to 3.	0
CTS-01526	II.A.1	II-9	Reflection of EP rule changes	Changed from "DeCordova Bend Estates" to "Decordova Bend Estates (DCDE)/Acton".	0
CTS-01527	II.A.1	II-9	Consistency with Unit1/2 Plan Rev. 37	Deleted "Tolar Volunteer Fire Department"	0
CTS-01526	II.A.3	II-12 [II-13]	Reflection of EP rule changes	Revised to state that support during an HAB event is addressed in the Safeguards Contingencies Plan.	0
CTS-01526	II.B	II-15	Reflection of EP rule changes	Revised to include language that addresses timely performance of emergency response functions.	0
CTS-01524	II.B.5	II-20	Editorial Correction	Changed from "offsite" to "off-site".	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01527	II.B.5	II-22	Consistency with Unit1/2 Plan Rev. 37	Changed from "news conferences" to "press briefings".	0
CTS-01526	II.C.2.b	II-35	Reflection of EP rule changes	Revised to acknowledge the need for Luminant advisers to be familiar with the ICS concepts, position titles and terminology used by OROs.	0
CTS-01526	II.C.5	II-35	Reflection of EP rule changes	Added Section II.C.5 to maintain consistency with this addition, although the Planning Standard (II.C.5)does not apply to the CPNPP Emergency Plan.	0
CTS-01526	II.C.6	II-35 [II-36]	Reflection of EP rule changes	Added Section II.C.6 to include language addressing the potential for hostile action events and established relations between Luminant and off-site response organizations to coordinate emergency response efforts.	0
CTS-01526	II.D	II-36 [II-37 II-38]	Reflection of EP rule changes	Revised to include the 15-minute emergency declaration timeliness criteria.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01524	II.D.1	II-37 [II-39]	Editorial Correction	Changed from "offsite" to "off-site".	0
CTS-01526	II.E.1	II-39 [II-41]	Reflection of EP rule changes	Changed from "begin no later than" to "be made within".	0
CTS-01527	II.G.3	II-49 [II-51]	Consistency with Unit1/2 Plan Rev. 37	Changed from "news conferences" to "press briefings".	0
CTS-01527	II.G.4	II-49 [II-51]	Consistency with Unit1/2 Plan Rev. 37	Changed from "news conferences and media briefings" to "press briefings".	0
CTS-01526	II.H	II-51 [II-53]	Reflection of EP rule changes	Revised to include language addressing the use of the EOF as the staging area for on-site ERO augmentation staff.	0
CTS-01524	II.H	II-51 [II-53]	Editorial Correction	Changed from "offsite" to "off-site".	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.H	II-51 [II-53]	Reflection of EP rule changes	Revised to address the revisions to regulations regarding characteristics of alternate facilities.	0
CTS-01526	II.H.2	II-53 [II-56]	Reflection of EP rule changes	Changed from "provides the following functions" to "has functions and capabilities for".	0
CTS-01526	II.H.2	II-54 [II-56 II-57]	Reflection of EP rule changes	Revised to address the revisions to regulations and NUREG-0696.	0
CTS-01526	II.H.2	II-55 [II-58]	Reflection of EP rule changes	Revised to address the revisions to regulations and NUREG-0696.	0
CTS-01524	II.J.5	II-67 [II-70]	Editorial Correction	Added missing space.	0
CTS-01526	II.J.5	II-67 [II-70]	Reflection of EP rule changes	Revised to address the new requirements to develop a range of protective actions to protect on-site personnel during hostile action events.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.J.7	II-68 [II-72]	Reflection of EP rule changes	Revised to indicate that the Evacuation Time Estimate (ETE) is used to inform the protective action decision-making process and any updated ETE will be submitted to the NRC at least 180 days before using it to form protective action recommendations and providing it to state and local governmental authorities for use in developing off-site protective action strategies.	0
CTS-01524	II.J.8	II-70 [II-73]	Editorial Change	Deleted "Evaluation Time Estimate" because it was spelled out previously.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.J.8	II-70 [II-73]	Reflection of EP rule changes	Revised to indicate that the ETE is used to assist in the development of traffic management plans to support an evacuation and to address performance of an updated ETE after receipt of a license under 10 CFR Part 52.	0
CTS-01526	II.J.10	II-72 [II-75]	Reflection of EP rule changes	Revised to indicate that the ETE is used to inform the protective action decision-making process.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.N.1.b	II-84 [II-89] and II-85 [II-90 II-91]	Reflection of EP rule changes	Revised to remove conduct of post-exercise critiques because this was also previously addressed in N.4 and has now been consolidated in N.4. Revised to change the 6 year exercise cycle to an 8 year exercise cycle. Added new paragraphs addressing key skills necessary to be demonstrated during the 8-year cycle and that Luminant maintains records of exercises conducted. Added a new paragraph addressing when a remedial exercise may be required. Relocated the portion of Evaluation Criterion N.1.b regarding off-hours exercises to new Section N.1.c, applicable only to the licensee.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.N.1.c	II-85 [II-91 II-92]	Reflection of EP rule changes	Changed existing Evaluation Criterion II.N.1.c, "Remedial Exercises" to II.N.1.d. , State and Local Participation in Ingestion Pathway Exercises." Added a paragraph addressing FEMA not requiring off-site agencies to participate in off-hours or unannounced exercises. Removed reference to Supplement 1 of NUREG-0654. Changed 6 year exercise cycle to 8 year exercise cycle.	0
CTS-01526	II.N.2.f	II-87 [II-94]	Reflection of EP rule changes	Added a new Section II.N.2.f to address a new paragraph of Subsection 4.3 of NUREG-0696 to address demonstration of the additional consolidated EOF functions described in Subsection 4.1 of NUREG-0696.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	II.P.4	II-94 [II-102 II-103]	Reflection of EP rule changes	Updated to address the ETE Update following receipt of a license under 10 CFR Part 52, subsequent updates to the ETE (including those conducted following the decennial Census), and the performance of annual estimates of the permanent resident population in the Plume Exposure Pathway EPZ. Revised to include the On-Shift Staffing Analysis as part of the annual review of the emergency plan.	0
CTS-01526	II.P.7	II-95 [II-104]	Reflection of EP rule changes	Revised to acknowledge the amended emergency plan change process guidance provided in Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," (RG 1.219).	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	III.A.	III-1	Reflection of EP rule changes	Added NSIR/DPR-ISG-01, Interim Staff Guidance (ISG)-01, "Emergency Planning for Nuclear Power Plants," Revision 0 dated November 2011 as Reference 2.	0
CTS-01526	III.A.	III-1	Reflection of EP rule changes	Deleted Reference 3 and identified R.G. 1.101 as new Reference 3.	0
CTS-01526	III.A.	III-2	Reflection of EP rule changes	Replaced NUREG-0654 with NUREG-CR-7002 as Reference 20.	0
CTS-01526	III.A.	III-2	Reflection of EP rule changes	Changed Reference 21 from RIS 2005-02 to RG 1.219.	0
CTS-01524	Appendix 2 II	A2-1	Editorial Correction	Changed from "offsite" to "off-site".	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01524	Appendix 2 III	A2-2	Editorial Correction	Changed from "offsite" to "off-site".	0
CTS-01526	Appendix 3 II	A3-1	Reflection of EP rule changes	Moved the last sentence of the first paragraph to Section IV.A.	0
CTS-01526	Appendix 3 III	A3-2	Reflection of EP rule changes	Inserted a new Section III.D to indicate that the State of Texas and Somervell and Hood Counties' Plans describe the backup means of alerting and notifying the public.	0
CTS-01526	Appendix 3 IV.A	A3-4	Reflection of EP rule changes	Moved the last sentence of the first paragraph of Section II to Section IV.A.	0
CTS-01526	Appendix 8 Table A8-2 (Sheet 19 of 22)	A8-20	Reflection of EP rule changes	Revised to include new NUREG-0654 Evaluation Criteria II.N.1.c and II.N.1.d.	0

Change ID	Section	EP Rev. 3 page*	Reason for change	Change Summary	Rev. of EP T/R
CTS-01526	Appendix 8 Table A8-2 (Sheet 20 of 22)	A8-21	Reflection of EP rule changes	Revised to include additional references for the State of Texas, Somervell County and Hood County for Evaluation Criterion II.N.4.	0
CTS-01526	Appendix 8 Table A8-3	A8-24	Reflection of EP rule changes	Revised to address additional guidance added to Appendix 3 of NUREG-0654.	0

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Definitions

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Accountability – The process of accounting for individuals within the Protected Area and identifying any missing individuals within 30 minutes following initiation of accountability measures.

Activation – The process where an Emergency Response Facility is staffed with sufficient qualified personnel to perform assigned functions.

Alert and Notification System – A system of fixed outdoor warning devices, mobile warning devices, institutional warning devices, and other special alerting mechanisms used to alert the public within the plume exposure emergency planning zone in the event of a declared emergency requiring public response.

Annually – For periodic emergency planning requirements, annually is defined as once during a calendar year.

As-Built Drawings- Drawings that provide location, configuration or design of buildings, systems, and components throughout Comanche Peak Nuclear Power Plant Units 3 and 4.

Assembly Areas – Locations, on-site and off-site, where personnel assemble in the event of an emergency when the Emergency Coordinator calls for a building/Protected Area evacuation.

Biennial – For periodic emergency planning requirements, biennial is defined as once every two years.

Committed Dose Equivalent – As defined by 10 CFR 20.1003

Declared Emergency – Any event classified in one of the four emergency classes: Notification of Unusual Event, Alert, Site Area Emergency, General Emergency.

Dedicated Emergency Equipment – Any items which are staged primarily for use by the Emergency Response Organization.

Drill – A supervised instruction period aimed at testing, developing and maintaining emergency response skills.

Effective Date – Date of change; implementation date assigned by approval authority; date from which 30-day Nuclear Regulatory Commission submittals are required in accordance with 10 CFR 50, Appendix E.V.

Emergency – Any situation that may result in undue risk to the health and safety of the public and/or site personnel, or significant damage to property or equipment.

Plume Exposure Pathway Emergency Planning Zone – An area delineated by an approximate ten-mile radius circle around the site. The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited materials and (b) inhalation exposure from the passing radioactive plume. The duration of principal potential exposures could range in length from hours to days.

Emergency Response Equipment – Any item which is identified or made available for emergency response.

Emergency Response Organization – The organization comprised of personnel assigned to perform selected emergency response tasks during a declared emergency.

Emergency Response Organization Roster – A listing of Emergency Response Organization personnel.

Emergency Repair and Damage Control Activities – Activities required to mitigate emergency conditions.

Exclusion Area – As defined in 10 CFR 50.2

Exercise – A test of the adequacy of timing and content of implementing procedures and methods; emergency equipment and communications networks; and the public notification system. An exercise permits the evaluation of training and response to ensure that emergency response organization personnel are familiar with their duties.

Hostile Action – An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate~~s~~ the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. Hostile Action should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism based Emergency Action Levels should be used to address such activities (i.e. this may include violent acts between individuals in the owner controlled area). CTS-01524 CTS-01524

Hostile Force – One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

In-Plant – Buildings or structures, located inside the Protected Area, directly associated with plant primary, secondary, control, or fuel-handling system (e.g., Reactor Building, Power Source Buildings, Auxiliary Building, Access Control Building, and Turbine Building).

Acronyms and Abbreviations

ALARA	As Low As Reasonably Achievable
ANI	American Nuclear Insurers
cc	Cubic Centimeter
CDE	Committed Dose Equivalent
CFR	Code of Federal Regulations
Ci	Curie
COL	Combined License
cpm	Counts Per Minute
CPNPP	Comanche Peak Nuclear Power Plant
CR	Control Room
DCBE	DeCordova Bend Estates
DCD	Design Control Document
DEM	(State of Texas) Governor's Division of Emergency Management
DHS	(U.S.) Department of Homeland Security
DOE	(U.S.) Department of Energy
dpm	Disintegrations Per Minute
DPS	(State of Texas) Department of Public Safety
EAL	Emergency Action Level
EAS	Emergency Alert System
ENS	(NRC) Emergency Notification System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	(U.S.) Environmental Protection Agency

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EPP	Emergency Plan Procedure
EPZ	Emergency Planning Zone
ERDC	Emergency Response and Damage Control
ERDS	Emergency Response Data System
ERF	Emergency Response Facility
ERO	Emergency Response Organization
ERZ	Emergency Response Zone
ETE	Evacuation Time Estimate
FEMA	(U.S.) Federal Emergency Management Agency
FRMAC	Federal Radiological Monitoring and Assessment Center
FSAR	Final Safety Analysis Report
ft	Feet
FTS	Federal Telecommunications System
GE	General Emergency
HAB	Hostile Action-Based
HPN	Health Physics Network (Communication System)
IC	Initiating Condition
INPO	Institute of Nuclear Power Operations
JIC	Joint Information Center
KI	Potassium Iodide
m	Meter
mph	Miles per hour
MWe	Megawatt electric
MWt	Megawatt thermal

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NOUE	Notification of Unusual Event
NOSF	Nuclear Operations Support Facility
NRC	(U.S.) Nuclear Regulatory Commission
NSSS	Nuclear Steam Supply System
NWS	(U.S.) National Weather Service
ODCM	Off-site Dose Calculation Manual
OFFRAC	Off-site Radiological Assessment Coordinator
ORC	Operations Review Committee
ORO	Off-Site Response Organization CTS-01525
OSC	Operations Support Center
PA	Protected Area
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PABX	Private Automatic Branch Telephone Exchange
PCS	Plant Computer System
RAP	Radiological Assistance Program
RCA	Radiation Controlled Area
RCP	(State of Texas) Radiation Control Program
RMS	Radiation Monitoring System
RO	Reactor Operator
RPC	Radiation Protection Coordinator
RPP	Radiation Protection Program
RPT	Radiation Protection Technician
SAE	Site Area Emergency

State of Texas and local response agencies are held periodically within the State of Texas to test major elements of the Plan. Federal response agencies may also participate in these joint exercises. Critiques of each implementation of the Plan allow for critical reviews of technique, methods, and improvements. Changes are factored into the Plan and/or implementing procedures through controlled revisions.

A. Purpose

The objective of the Plan is to describe measures to protect the health and safety of the general public, persons visiting or temporarily assigned to the site, and CPNPP employees in the event of an emergency at the site.

To meet this objective, the Plan creates a high order of preparedness and provides for an orderly and timely decision-making process. Emphasis is placed on maintaining preparedness through training, drills, and exercises. Availability of equipment, supplies, and essential services is maintained by the Plan. This Plan also provides for coordination of on-site and off-site emergency response and establishes a unified approach to emergency preparedness, with consideration given to the incident command concepts incorporated into the State and local emergency plans. CTS-01526

This Plan describes the pre-planned facilities, equipment, response organizations, assessment and protective actions, and cooperative agreements established by Luminant to provide for adequate protection of life and property in the event of a radiological emergency at CPNPP Units 3 and 4. In this context, protection of life and property includes:

- Notifying and mobilizing affected members of the licensee staff, Federal agencies, the State of Texas, local, and private-sector response organizations, and the public;
- Limiting the radiological impact of the emergency on plant employees and affected members of the public; and
- Limiting the potential adverse impact of protective actions, such as evacuations or sheltering.

The impact of plant emergencies is limited through the implementation of pre-planned and controlled preparatory, assessment, and protective actions consistent with this Plan.

EPPs provide instructions for accomplishing certain provisions of the Plan. A list of topics covered by the EPPs is included in Appendix 5.

B. Scope

This Plan applies to preparedness and response to any radiological emergency condition at CPNPP Units 3 and 4. Section II.D of this Plan describes the emergency classification system. Appendix 1 identifies radiological emergency conditions, their initiating conditions (IC), and Emergency Action Levels (EALs).

This Plan has been coordinated with the plans of affected government agencies and private sector support organizations as listed in Section II.A of this Plan. Ongoing coordination with affected Federal, State of Texas and local agencies and private sector support organizations is imperative to provide an effective emergency response capability. The Plan is designed to complement the Texas Emergency Management Plan and to interface with Somervell and Hood County Emergency Management Plans.

C. Planning Basis and Emergency Planning Zones

1. Planning Basis

CPNPP Units 3 and 4 are licensed under the requirements of Title 10, Code of Federal Regulations (CFR), Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants." The regulations in 10 CFR Part 52 invoke the emergency planning requirements in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." Consistent with the requirements of both 10 CFR Part 50 and 10 CFR Part 52, this Plan is based on the requirements of 10 CFR Part 50, Section 50.47, "Emergency Plans," and Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities." This plan is also based on the guidance provided in NUREG-0654 and NSIR/DPR-ISG-01, Interim Staff Guidance (ISG) -01 "Emergency Planning for Nuclear Power Plants, Revision 0" (Reference 2). NUREG-0654 has been endorsed as an acceptable means of meeting the emergency planning requirements of 10 CFR Part 50 through NRC Regulatory Guide 1.101, Revision 3, "Emergency Planning and Preparedness for Nuclear Power Reactors" (Reference ~~2~~3). CTS-01526 CTS-01526

Two Westinghouse 4-loop pressurized water reactors (Units 1 and 2) are also located at CPNPP. The planning basis draws extensively on the existing Emergency Plan.

2. Emergency Planning Zones

NUREG-0654 establishes two Emergency Planning Zones (EPZs) for which planning for predetermined actions are implemented – the Plume Exposure Pathway EPZ, which has a radius of approximately ten miles, and the Ingestion Exposure Pathway EPZ, which has a radius of approximately fifty miles.

Ambulance Service

- Granbury/Hood County Emergency Medical Service, Inc.
- Somervell County Fire, Rescue, and EMS Service

Firefighting

- Somervell County Fire, Rescue, and EMS Service
- Granbury Volunteer Fire Department
- ~~Tolar Volunteer Fire Department~~ CTS-01527
- Indian Harbor Volunteer Fire Department
- DeCordova Bend Estates (DBCE)/Acton Volunteer Fire Department CTS-01526

Public Health and Safety, Evaluation of the Radiological Situation

- TDSHS - RCP
- Texas Department of Agriculture

Federal Government Emergency Response

The Emergency Coordinator is authorized to request Federal assistance on behalf of the site under provisions of the Federal Radiological Emergency Response Plan. The Emergency Coordinator requests Federal assistance by contacting the NRC. The emergency response roles of various Federal agencies are established in the National Response Framework and various agency-specific documents (e.g. NRC Incident Response Plan) supporting that plan.

CPNPP Units 3 and 4 also maintain close contact with the NRC Operations Center and/or the NRC Region IV Office in Arlington, Texas. This is an important function to provide accurate information and assessment of the emergency to the Federal Government. As a result of these communications, the NRC can best appraise their response to the emergency.

Nuclear Regulatory Commission

The response provided by the NRC is described in NUREG-0728, "NRC Incident Response Plan," Rev. 4 (Reference 4). The agency's response at the regional level is under the direction of the Region IV Administrator or designee. If an NRC site team is established and dispatched to the vicinity

Luminant has established relations with off-site response organizations (OROs) identified and described in section II.A.1 of this Plan to coordinate emergency response efforts should they be needed. The scope of ORO support includes the implementation of State and local emergency response plans to protect public health and safety in the event of a severe reactor accident and to provide sufficient fire, medical and local law enforcement support, as necessary, to CPNPP, including during an hostile-action based (HAB) event. The EPP addressing "Security Events" and the Safeguards Contingencies plan identified OROs and their expected integration into on-site activities during HAB events. CTS-01526

Letters of Agreement with private sector organizations, such as fire response, emergency medical transportation, and hospitals, are provided in Appendix 7.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

4. Continuous Operations

Luminant maintains capability for continuous operations through training of multiple responders for key emergency response positions, consistent with the training requirements established in Section II.O of this Plan. The Emergency Coordinator or EOF Manager, as appropriate, bears responsibility for ensuring continuity of technical, administrative, and material resources during emergency operations.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

B. On-site Emergency Organization

On-shift responsibilities for Luminant emergency response are defined in this section of the Plan. Sufficient on-shift ~~S~~staffing for initial accident response in key functional areas is maintained continuously during the course of an emergency and assigned responsibilities do not inhibit the timely performance of emergency response functions. Timely augmentation of response capabilities is available, and the interfaces among various on-site response activities and off-site support and response activities are described. CTS-01526

1. On-site Emergency Organization

The initial response starts with the normal Operations Shift. The operating organization, along with minimum on-shift complement is discussed in the FSAR, Section 13.1.

Figure II-2 illustrates the CPNPP Units 3 and 4 ERO. EPPs provide details regarding ERO position functions.

The Operations Shift is responsible for the safe operation of the plant and provides for 24-hour per day emergency response. The Operations Shift responds to abnormal and emergency events and takes action as necessary to mitigate the consequences of an event. Details regarding these actions are specified in the EPPs.

The following principal responsibilities are assigned to the Operations Shift until relieved by members of the ERO.

Shift Manager

- At the onset of an event, assess, classify, and declare the emergency.
- Assume the duties and responsibilities of the Emergency Coordinator.
- Implement response actions based upon the emergency classification declared.
- Approve release of public information from Luminant.

Shift Technical Advisor

- Provide engineering expertise and advice regarding plant transient analysis, accident mitigation, core/thermal hydraulics, and other matters related to operational safety.
- Perform dose assessment.

Technical Support Center Manager

The TSC Manager relieves the Shift Manager of Emergency Coordinator duties. The TSC Manager is responsible for activation and control of emergency response activities conducted in the TSC. The TSC Manager relieves CR personnel of administrative functions and decisions and maintains direction and control of on-site emergency response activities conducted within the Protected Area which are required to place a plant in a safe, stable condition.

Technical Support Center Communications Coordinator

The TSC Communications Coordinator is responsible for coordinating communications activities in the TSC. Prior to EOF activation, the position is also responsible for administrative and logistical support.

Technical Support Center On-Site Radiological Assessment Coordinator

Once the TSC is activated, responsibilities for on-site and off-site radiological assessment and survey activities shall be assumed by the TSC On-Site Radiological Assessment Coordinator. The position provides backup dose assessment capabilities and is responsible for directing the on-site radiological assessment activities and ensuring the radiological safety of personnel on-site.

Once the EOF is activated, overall responsibility for off-site radiological assessment shall be assumed by the EOF Radiation Protection Coordinator (RPC).

Technical Support Center Operations Coordinator

The TSC Operations Coordinator serves as the Operations representative to the TSC staff and as the contact point between the TSC and the operating crew.

Emergency Planning Advisor

The Emergency Planning Advisor assists the ERO activation of the TSC and provides expertise to TSC personnel concerning: Comanche Peak and off-site supporting emergency facilities capabilities; communications capabilities; personnel and equipment resources; and procedural requirements. CTS-01524

Technical Support Center Engineering Team Coordinator

The TSC Engineering Team Coordinator is responsible for directing and coordinating activities of the TSC Engineering Team to assess plant status and severity of emergency conditions.

On-Site Survey Teams

As CPNPP Units 3 and 4 Emergency Organization personnel become available, on-site radiological survey teams shall be formed as required and dispatched from the OSC. On-site Survey Teams initially shall be composed of at least two members, at least one of which shall be a Radiation Protection Technician. The On-site Survey Team(s) perform required on-site and in-plant surveys in accordance with approved EPPs.

Company Spokesperson

The Company Spokesperson is responsible for coordinating with the Emergency Coordinator and approving public information releases issued by Luminant from the JIC.

Joint Information Center Director

The JIC Director schedules, coordinates, and hosts press briefings and approves access to the JIC.

Joint Information Center Support Staff

The JIC Support Staff:

- gathers current technical event related information from the Emergency Coordinator and forwards to the Company Spokesperson and/or JIC Director
- informs corporate communications, government sources, and media news services of event developments and obtains emergency-related information from outside sources
- prepares press releases from approved information for dissemination to the media
- reviews received rumors and media broadcasts for consistency with approved information and reports findings to the Company Spokesperson
- host media representatives
- set up and monitor audio and visual equipment
- record ~~news conferences~~press briefings | CTS-01527
- monitor media broadcasts for event related information
- answer telephone requests for information from the public and the media

b. In the event of an emergency requiring off-site assistance, Luminant dispatches advisers to the Texas EOC in Austin, the Hood County EOC, and the Somervell County EOC. To ensure effective coordination, advisers are familiar with the incident command concepts, position titles and terminology consistent with the State and local emergency plans and procedures. CTS-01526

3. *Radiological Laboratories*

Radiological laboratories available to support emergency response efforts include the TDSHS mobile radiological laboratory, the DOE Radiological Assistance Team, the U.S. EPA, and the South Texas Project. Fixed facilities are available for gross counting and spectral analysis in the site counting laboratory. These radiological laboratories are available on a 24 hour per day basis and could provide their services and equipment on demand.

Appendix 8 of this Plan provides a cross-reference to these provisions in State Plans, as applicable.

4. *Other Supporting Organizations*

Luminant has made arrangements to obtain additional emergency response support from the INPO Fixed Nuclear Facility Voluntary Assistance Agreement signatories. Letters of Agreement, provided in Appendix 7 of this Plan, outline the scope of the expected support.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

5. *Liaison Personnel to State and Local Governments* CTS-01526

Reserved (to preserve numbering sequence with NUREG-0654).

6. *Support from Off-Site Response Organizations During an Hostile-Action Based Event*

Potential hostile actions against CPNPP present unique challenges to Luminant and OROs because an HAB event could place multiple simultaneous demands on OROs. In the unlikely event that hostile actions are encountered at CPNPP, fire, medical and law enforcement resources may have multiple duties in addition to supporting implementation of the off-site emergency response plans. These multiple duties are considered in each ORO's implementing procedures addressing emergency response actions during a HAB event.

Luminant has established plans for coordinating emergency response efforts with OROs, which are identified and described in section II.A.1 of

this Plan. The scope of ORO support includes the implementation of State and local emergency response plans to protect public health and safety in the event of a severe reactor accident and to provide sufficient fire, medical and local law enforcement support, as necessary, to CPNPP. Specific arrangements for HAB events are addressed in the Safeguards Contingencies Plan. CTS-01526

CPNPP maintains agreements with facilities, organizations and individuals that can be relied upon in an emergency to provide assistance to CPNPP, including a response to HAB events. The associated Letters of Agreement, included in Appendix 7 of this Plan, outline the scope of the expected support and address prompt access to CPNPP for in-bound first responders, including during HAB events.

Training for ORO personnel necessary to ensure an adequate response during an HAB event at CPNPP is addressed in Section II.O of this Plan.

D. Emergency Classification System

Luminant implements the standard emergency classification scheme discussed below based on system and effluent parameters, on which the State of Texas and Somervell and Hood Counties may rely for determining minimum initial off-site response measures.

The ICs include the conditions provided in NEI 99-01, "Methodology for Development of Emergency Action Levels," Rev. 5 (Reference 7) as applied to US-APWR facilities and postulated accidents identified in the FSAR. The US-APWR uses a digital control system that is not addressed in NEI 99-01. Accordingly, related guidance in NEI 07-01, "Methodology for Development of Emergency Action Levels for Advanced Passive Light Water Reactors," Rev. 0 (Reference 8) is used. EALs established for each emergency classification have been accepted by off-site authorities responsible for implementing protective measures for the population-at-risk.

~~The classification system is not intended to include minor deviations during normal operation.~~Some EALs allow for minor deviations during normal operation through the inclusion of a timing statement. Furthermore, it may be discovered that an event or condition, which met the classification criteria had existed, but that the basis for the emergency class no longer exists at the time of discovery. For example, the event may have rapidly concluded or been discovered during a post-event review. As discussed in NUREG-1022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Rev. 2 (Reference 9), actual declaration of an emergency class is not necessary in these circumstances, although notification to the NRC, the State of Texas and Somervell and Hood County agencies is warranted. RCOL2_13.03-44

Luminant maintains the capability to assess, classify and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded and to promptly declare an emergency condition upon identification of the appropriate emergency classification. For the purpose of this capability: CTS-01526

- A plant operator is defined as any member of the plant staff who, by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the CPNPP and EALs.
- The 15-minute criterion commences when plant instrumentation, plant alarms, computer displays, or incoming verbal reports that correspond to an EAL first become available to any plant operator.
- The 15-minute criterion ends when the Shift Manager/Emergency Coordinator determines that an EAL has been exceeded, identifies the appropriate classification, and makes the emergency declaration.

Details regarding the capabilities to assess, classify and declare an emergency condition are contained in the EPP addressing "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation." CTS-01526

1. Classification System

Appendix E of 10 CFR Part 50 identifies four distinct classes of emergencies: NOUE, Alert, SAE, and GE.

ICs that determine the appropriate classification are generally described in the following paragraphs. Appendix 1 provides detailed ICs and EALs based on specific instrument readings, parameters or equipment status used to determine whether an emergency class threshold has been reached. If plant conditions change in severity, the situation is reassessed and reclassified (if appropriate) and corresponding actions are taken.

The definitions of these emergency classes, more fully discussed in NEI 99-01, and a general list of licensee actions at each emergency class level are as follows:

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

  Actions undertaken at the Notification of Unusual Event include promptly informing State and local authorities of the event, augmenting on-shift resources as needed, assessment and response, and escalation to a more severe class, if appropriate. If the emergency class is not escalated to a more severe class, then State and local authorities will be notified of event termination in accordance with implementing procedures.

- Alert – Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. Any releases are expected to be limited to small fractions of the EPA Protective Action Guide (PAG) exposure levels.

  Actions undertaken at the Alert emergency class include those described for the Notification of Unusual Event and activation of the Technical Support Center and Operational Support Center. In addition, Emergency Operations Facility and other key emergency response personnel are alerted, on-site monitoring teams are dispatched, periodic plant status updates and meteorological assessments are

provided to off-site authorities, as are dose estimates, if any event-related releases are occurring. CTS-01524

- SAE – Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or hostile actions that result in intentional damage or malicious act: 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA PAG exposure levels beyond the site boundary.

  Actions undertaken at the Site Area Emergency class include those described for the Alert emergency class and activation of the Emergency Operations Facility. In addition, non-essential personnel are evacuated from the site unless otherwise directed, an individual is dedicated to provide plant status updates to off-site authorities and periodic media briefings (jointly with off-site authorities when practicable), senior technical and management staff are made available for consultation with NRC and the State on a periodic basis, and release and dose projections based on available plant condition information and foreseeable contingencies are provided. CTS-01524

- GE – Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA PAG exposure levels off-site for more than the immediate site area.

  Actions undertaken at the General Emergency class include those described for the Site Area Emergency class. In addition, a Protective Action Recommendation is issued for the public and continuous assessment of information from monitoring groups is provided.

Appendix 1 of this Plan provides recognition categories, the associated IC matrices, and the EALs.

2. *Emergency Action Levels*

Luminant adopts the EAL methodology provided in NEI 99-01, Rev. 5. EALs contained in this Plan are subject to further review and modification to reflect additional information related to final facility design and operation as reflected in the US-APWR Design Control Document (DCD) (Reference 10) and FSAR.

The US-APWR uses a digital control system that is not addressed in NEI 99-01. Accordingly, related guidance in NEI 07-01 is used. Appendix 1

E. Notification Methods and Procedures

Luminant has established procedures for notification of the State of Texas and Somervell and Hood Counties' EROs. This section discusses notification of emergency personnel, the content of initial and follow up messages to EROs and the public, and the means to provide early notification and clear instruction to the public within the Plume Exposure Pathway EPZ.

1. Notification of State and Local Authorities

The Emergency Coordinator initiates notification of the State of Texas and Somervell and Hood Counties' authorities when the following conditions occur:

- Initial declaration of an emergency classification
- Escalation of an emergency classification
- Initial PAR
- Change in a PAR
- Emergency Termination and Reclassification
- Emergency Termination (with no reclassification)

Initial notifications shall ~~begin no later than~~be made within fifteen (15) minutes after one of the above conditions are met. | CTS-01526

Initial notifications are made to the following:

- Somervell County Sheriff or Dispatcher
- Hood County Sheriff or Dispatcher
- DPS

A dedicated line has been established that simultaneously links CPNPP with the DPS, the Somervell County EOC, and the Hood County EOC. Section II.F.1 of this Plan provides a description of the primary and back-up notification systems. Message content and verification methods are established in EPPs and agreements between the affected organizations.

The NRC is notified as soon as is practical following the notification of the State of Texas and Somervell and Hood County authorities and within one

available during an emergency. As discussed above, this information is updated and distributed annually.

Information intended for the transient population (individuals on vacation in, camping in, or traveling through the Plume Exposure Pathway EPZ) may include public postings and publications provided to selected local businesses, public buildings, recreational areas, hotels, motels, and campgrounds. This information provides transients sources for local emergency information, such as local EAS radio stations, telephone numbers for the Somervell and Hood County Sheriff's offices, instructions if asked to take shelter or evacuate, as well as maps and directions for evacuation routes and reception centers. This information will be reviewed and, if necessary, updated annually in coordination with Hood and Somervell Counties.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

3. News Media Coordination

a. During an emergency, ~~news conferences~~press briefings are coordinated with Federal, State, and local public information personnel. Upon declaration of a SAE or higher emergency classification the JIC is activated in accordance with the EPPs. The JIC, located in the Granbury City Hall at 116 W. Bridge, in Granbury, TX, functions as the single contact point for dissemination of emergency-related information to the news media. CTS-01527

b. The JIC provides space for approximately 75 media personnel and is located outside the Plume Exposure Pathway EPZ.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

4. Information Exchange

a. A Company Spokesperson who has access to required information provides plant status and company information during scheduled ~~news conferences and media briefings~~press briefings. The Information Liaison and Company Spokesperson are the primary contacts for the news media for Luminant. CTS-01527

b. Luminant liaisons coordinate with designated members of the State of Texas and Somervell and Hood County EROs on a periodic basis.

c. Rumor control is accomplished through ongoing contact between the designated Company Spokesperson, the State of Texas' Public Information Coordinator and Somervell and Hood County Public

H. Emergency Facilities and Equipment

This section of the Plan describes emergency response facilities and equipment used by the CPNPP ERO in the event an emergency is declared at CPNPP Units 3 and 4.

Facility activation is dependent on the emergency classification; however, the Emergency Coordinator has the option of activating one or all of the ERFs at an emergency classification less severe than that described in the EPPs. Details regarding activation of each ERF are provided in EPPs.

The facilities required in the implementation of the Plan consist of the:

- CRs
- OSC
- TSCs
- EOF

These facilities are designed consistent with the guidance provided in NUREG-0696 (Reference 13) and the clarification in NUREG-0737, Supplement 1 (Reference 14), as applicable.

~~Upon activation, security based events may warrant deployment of the ERO to an alternate near site facility.~~During an HAB event, the EOF, described in Section II.H.2 of this Plan, serves as the staging area for on-site ERO augmentation staff. Characteristics of the alternate facilities include: CTS-01526

- Accessibility even if CPNPP is under threat or attack
- Communication links with the EOF, CR, and Security
- Capability to notify off-site response organizations CTS-01524
- Capability for emergency repair and damage control teams to begin planning actions to mitigate the consequences of the event
- Capability to support a rapid response to mitigate site damage as soon as the site is deemed accessible CTS-01526
- Access to up-to-date plant technical documentation, including plant drawings, system information and plant procedures to enable engineers and maintenance supervisors to begin planning actions

The EPPs addressing "Activation and Operation of the Technical Support Center (TSC)", "Activation and Operation of the Operations Support Center (OSC)", and "Activation and Operation of the Emergency Operations Facility (EOF)." detail the activation and characteristics of the alternative facilities.

2. *Off-site Emergency Response Facilities*

Emergency Operations Facility

The EOF is located in the NOSF which is located 0.1 miles west of the exclusion area boundary on the Plant Road.

The EOF ~~provides the following functions~~has functions and capabilities for: CTS-01526

- Management of overall response during an emergency condition
- Coordination of radiological and environmental assessment
- Determination of recommended public protective actions
- Notification of off-site agencies CTS-01526
- Coordination of event, plant, and response information provided to public information staff for dissemination to the media and public
- Staffing and activation of the facility within time frames and at emergency classification levels defined in the Emergency Plan
- Coordination of emergency response activities with Federal, State, and local agencies
- Obtaining and displaying key plant data and radiological information for each unit or plant the EOF serves CTS-01526
- Analyzing plant technical information and providing technical briefings on event conditions and prognosis to Luminant staff and off-site agency responders for each type of unit or plant
- Effectively responding to and coordinating response efforts for events occurring simultaneously at more than one unit

Anticipated occupants of the EOF are the EOF Organization and appropriate Federal, State and local agency representatives.

The EOF is a well engineered building meeting the Uniformed Building Code. It is designed for the expected life of the plant. The walls and ceilings are approximately eight (8) inches of concrete. The ventilation system and structure are not seismically qualified. The EOF has special sheilding and ventilation provisions for habitability. The EOF is shielded to provide a gamma protection factor of < 15. The dedicated ventilation system has a High Efficiency Particulate (HEPA) filter which filters the incoming air. The ventilation system maintains a slight positive pressure in the EOF.

Additional details regarding EOF habitability are described in the EPP that addresses "Activation and Operation of the EOF."

The EOF working space is sized for 35 persons, including Federal, State, and local emergency response personnel. The EOF floor space is approximately 2,625 square feet (ft). The EOF has been designed and is equipped to support continuous operations over an extended period of time.

The EOF is large enough to provide the following:

- Work space for the personnel assigned to the EOF
- Space for the EOF Data Display Equipment
- Space for unhindered access to communication equipment by EOF personnel
- Space for storage of and/or access to plant records and historical data.
- A separate room ~~for private NRC consultations~~to accommodate NRC and other Federal personnel CTS-01526

Section II.H.5 of this Plan provides a description of the radiological monitoring of the EOF.

The EOF has redundant two-way communications with the TSC and appropriate off-site support agencies. Section II.F of this Plan provides a description of the communications capabilities provided in the EOF.

The EOF is equipped with technical data displays to assist EOF personnel in diagnosis of plant conditions and to evaluate potential or actual release of radioactive materials to the environment.

The EOF has ready access to plant records, procedures, and emergency plans needed to exercise overall management of CPNPP Units 3 and 4 emergency response resources. These documents are kept current and are maintained as described in document control procedures. The EOF reference material includes:

- CPNPP Units 3 and 4 FSAR
- Plant Technical Specifications
- Operating Instructions, Both Normal and Emergency
- Off-Site Population Distribution Data
- Evacuation Plans

- US-APWR DCD

Personnel assigned to the EOF are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of sixty (60) minutes if a SAE or GE is declared in accordance with EPPs. When the EOF is activated, security protection will be upgraded to restrict access to those personnel assigned to the facility.

Should evacuation of the EOF be required, the ~~EOC in the Hood County Law Enforcement Center may be used as an alternate location.~~alternate EOF, located approximately 11 miles north of CPNPP in the Daffan Industrial Park on Hwy 51, approximately one mile north of Granbury, may be used as an alternate location. This facility provides for continuity of EOF dose projection and decision-making functions using a combination of dedicated and portable equipment. Radiological assessment activities may also be relocated to the State's mobile radiological laboratory. CTS-01526

Periodic EOF activation drills are described in Section II.N.2.f of this Plan and are used to demonstrate the ability to perform consolidated EOF functions. CTS-01526

3. *State/County Emergency Operating Centers*

The State of Texas and Somervell and Hood Counties' Plans establish EOCs for use in directing and controlling their emergency response functions. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

4. *Activation and Staffing of Emergency Response Facilities*

Section II.H.2 of this Plan provides a description of the activation and staffing of the ERFs.

The State of Texas and Somervell and Hood County emergency response personnel also staff their ERFs consistent with the requirements of their respective plans. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

5. *On-site Monitoring Systems*

Luminant maintains and operates on-site monitoring systems needed to provide data that is essential for initiating emergency measures and performing accident assessment. This includes monitoring systems for geophysical phenomena, radiological conditions, plant processes, and fire hazards.

accountability and evacuation. The Emergency Coordinator makes decisions regarding appropriate protective measures based on evaluation of site conditions, including input from the Security Organization. If, based on the judgment of the Emergency Coordinator, personnel assembly, accountability, and evacuation may result in undue hazards to site personnel, the Emergency Coordinator may direct other protective measures, including:

- Evacuation of personnel from areas and buildings perceived as "high-value" targets (including security personnel) CTS-01524
- Site evacuation by opening, while continuing to defend, security gates
- Dispersal of licensed operators
- On-site sheltering away from potential site targets
- Staging of ERO personnel in alternate locations pending restoration of safe conditions
- Implementation of accountability measures following restoration of safe conditions

The EPP addressing "Security Events" addresses each of these items and provides ~~guidance for onsite protective measures of site workers during hostile action events~~instructions for protecting on-site personnel if a Security Event or Hostile Action is occurring or a specific, credible threat is received. CTS-01526

6. Protective Measures

Luminant distributes protective equipment and supplies to on-site emergency response personnel, as necessary, to control radiological exposures or contamination. Protective measures utilized include the following:

a. Respiratory Protection and Engineering Controls:

- Protective measures are utilized to minimize the ingestion and/or inhalation of radionuclides and to maintain internal exposure below the limits specified in 10 CFR Part 20, Appendix B.
- Ventilation controls are utilized in the TSC and CR to control concentrations of radioactive material in air. Otherwise, when not practical to apply engineering controls to limit intakes of radioactive material in air, one or more of the following protective measures is utilized:
    - Control of Access

conditions make evacuation dangerous, e.g., severe weather or overriding threat to public safety.

The Evacuation Time Estimate (ETE) (discussed in Section II.J.8 of this Plan) is used by Luminant in the development of off-site PARs and by the OROs when making off-site protective action decisions. Luminant submits any updated ETE analysis to the NRC at least 180 days before using it to form PARs and providing it to state and local governmental authorities for use in developing off-site protective action strategies. Luminant reevaluates the initial PAR following each annual population estimate and any subsequent ETE update, as described in Section II.P.4 of this Plan. CTS-01526

PARs may change as plant conditions, radiological dose estimates, or meteorological conditions change and may consist of sheltering, evacuation, KI, or no action. Details regarding appropriate PARs are contained in EPPs.

The EOF Radiation Protection Coordinator is responsible for making dose projections on a periodic basis. These calculations use plant procedures to calculate projected dose to the population-at-risk for either potential or actual release conditions. For conditions in which a release has not occurred, but fuel damage has taken place and radiation levels in the containment atmosphere are significant, a scoping analysis is performed to determine what recommendations would be made if containment integrity were lost at that time. A Total Effective Dose Equivalent (TEDE) and thyroid Committed Dose Equivalent (CDE) are calculated at various distances from the plant (site boundary; 2 miles; 5 miles; 10 miles and beyond, if needed). These dose projections are compared to PAGs shown in Table II-3, which are derived from EPA PAGs. Based on these comparisons, PARs are developed by the EOF Radiation Protection Coordinator. If these recommendations involve sheltering or evacuation of the public around the plant, the EOF Radiation Protection Coordinator informs the EOF Manager of the situation and recommendations for protective actions.

Table II-3 Protective Action Guides

Projected Dose		Protective Action Recommendation
Total Effective Dose Equivalent (TEDE)	Committed Dose Equivalent Thyroid (CDE Thyroid)	
< 1 rem	< 5 rem	No protective action required based on projected dose
≥ 1 rem	≥ 5 rem	Evacuate affected zones and shelter the remainder of the Plume Exposure Pathway EPZ
N/A	≥ 5 rem	Consider use of KI in accordance with State Plans and policy

If dose projections show that PAGs are exceeded at 10 miles, the dose assessment code and in-field measurements, when available, are used to calculate doses at various distances downwind to determine how far from the CPNPP Units 3 and 4 PAG levels are exceeded. The Radiation Protection Coordinator forwards the results to the EOF Manager who communicates this information to the off-site authorities.

8. Evacuation Time Estimates

Luminant ~~has~~ conducted an ~~Evacuation Time Estimate (~~ETE~~)~~ (Reference 18). The ETE follows the guidance provided in Appendix 4 of NUREG-0654 and NUREG/CR-6863, "Development of Evacuation Time Estimate Studies for Nuclear Power Plants" (Reference 19). The ETE did not reveal the existence of any significant impediments to the development of emergency plans. CTS-01524

The ETE may be used by state and local government agencies to assist in the development of traffic management plans to support an evacuation. CTS-01526

Population distribution and a summary of the Evacuation Time Estimate are included in Appendix 4 of this Plan.

CPNPP Units 3 and 4 will perform an estimate of the population within the Plume Exposure Pathway EPZ after receipt of a license under 10 CFR Part 52 to determine the need for an updated ETE. This update, subsequent updates to the ETE (including those conducted following the decennial Census) and the performance of annual estimates of the Plume Exposure Pathway EPZ permanent resident population are addressed in Section II.P.4 of this Plan. CTS-01526

f. The State of Texas does not administer radioprotective drugs to the general population. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

g. The State of Texas and Somervell and Hood Counties' Plans include a means of relocating the populace within the Plume Exposure EPZ. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

h. The State of Texas and Somervell and Hood Counties' Plans include reception centers beyond the Plume Exposure EPZ. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

i. The State of Texas and Somervell and Hood Counties' Plans include projected traffic capacities of evacuation routes under emergency conditions. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

j. The State of Texas and Somervell and Hood Counties' Plans include control of access to evacuated areas and establishment of organizational responsibilities for such control. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

k. The State of Texas and Somervell and Hood Counties' Plans include the identification of and means for dealing with potential impediments to the use of evacuation routes. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

l. The State of Texas and Somervell and Hood Counties' Plans include evacuation time estimates for the Plume Exposure EPZ. Appendix 8 of this Plan provides a cross-reference to these provisions in State Plans, as applicable.

m. The choices of recommended protective actions are based on the guidance provided in NUREG-0654, Supplement 3. The NRC approved ETE and updates to the ETE are used as input to the protective action decision-making process, to formulate protective action recommendations. Section II.J.8 and Appendix 4 of this Plan provide discussion of the ETE that has been prepared for the Plume Exposure Pathway EPZ. CTS-01526

11. Ingestion Pathway Protective Measures

The State of Texas Plan specifies the protective measures to be used for the Ingestion Pathway, including the methods for protecting the public from

N. Exercises and Drills

This section of the Plan describes exercises conducted to evaluate major portions of Luminant's emergency response capabilities. Periodic drills are conducted to develop and maintain key emergency response skills. Deficiencies identified as a result of exercises and drills are corrected.

1. Exercises

a. Exercise Scope and Frequency

Luminant conducts emergency exercises in accordance with NRC and FEMA requirements (e.g., 10 CFR 50.47(b)(14), 10 CFR Part 50 Appendix E.IV.F, and 44 CFR 350.9). Exercise objectives when the State of Texas and Somervell and Hood County agencies participate in an exercise are coordinated and agreed upon with State and local emergency management officials.

b. Exercise Scenarios and Participation

Exercise scenarios are developed in a manner that provides reasonable assurance that preconditioning of participants is avoided. The scenarios include a wide spectrum of radiological releases and events, including hostile action. When appropriate to the objective, exercise scenarios emphasize coordination among on-site and off-site response organizations. All biennial exercises must include demonstration of response to at least the SAE emergency classification level. CTS-01526

Exercise scenarios are submitted to the NRC in accordance with 10 CFR 50.4 at least 60 days prior to use.

The State of Texas and Somervell and Hood Counties' Plans provide for the mobilization of State and local personnel and resources adequate to verify the capability to respond to an incident requiring response. Luminant conducts exercises on a periodic basis, including biennial exercises required under Appendix E of 10 CFR Part 50. ~~Federal and State observers/evaluators are afforded the opportunity to critique the exercises.~~ CTS-01526 Exercises test the:

- Adequacy of timing and content of EPPs and methods
- Emergency equipment and communications networks
- Public notification system

In addition, exercises test the familiarity of emergency organization personnel with their duties.

In each eight-year cycle, CPNPP varies the content of scenarios to provide the opportunity for the ERO to demonstrate proficiency in key skills necessary to respond to the following scenario elements: CTS-01526

a. Hostile action directed at CPNPP Units 3 and 4 involving the integration of off-site resources with on-site response;

b. An initial classification of, or rapid escalation to, a SAE or GE;

c. No radiological release or an unplanned minimal radiological release that does not require public protective actions;

   i. Luminant is required to demonstrate the ability to respond to a no/minimal radiological release scenario only once within the eight-year exercise cycle. State and local response organizations have the option, and should be encouraged, to participate jointly in this demonstration.

   ii. When planning for a joint no/minimal radiological release exercise, affected State and local jurisdictions, Luminant, and FEMA will identify off-site capabilities that may still need to be evaluated and agree upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements. Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out-of-sequence activities, plan reviews, staff assistance visits, or other means as described in FEMA guidance.

   iii. If the off-site organizations elect not to participate in Luminant's required minimal or no release exercise, they will still be obligated to fully participate in an integrated exercise at least every 2 years to meet the requirements as specified in 44 CFR 350.9.

d. Implementation of strategies, procedures and guidance developed under 10 CFR 50.54(hh)(2).

Luminant maintains records of exercises conducted during each eight year exercise cycle that document the content of scenarios used to comply with the requirements of 10 CFR Part 50, Appendix E, Section IV.F.2.j.

A remedial exercise is required if it is determined that implementation of the Emergency Plan was not satisfactorily demonstrated during the biennial exercise such that the NRC cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency.

The need for a remedial exercise will be determined on a case-by-case basis when any of the following conditions associated with a biennial exercise occur: CTS-01526

- Confidentiality is compromised to an extent that broadly affects ERO performance
- The scenario does not provide the opportunity for demonstration of key skills
- The scenario is not implemented in such a way that provides the opportunity for demonstration of key skills, or
- ERO performance does not provide the NRC with a basis to determine that key skills have been maintained.

~~Exercise scenarios are varied in a manner that tests each major element of the plans and preparedness organizations within a six year period.~~

c. Off-Hours and Unannounced Exercises

~~In accordance with NUREG-0654, Supplement 1 (Reference 20), a~~At least once every ~~six~~eight years, the specific exercise date is unannounced. At least once every ~~six~~eight years, an exercise is initiated during off-hours (between 6 pm and 4 am~~ on a weekday or during a weekend~~). Requirements for unannounced and off-hours exercises may be satisfied concurrently.

The unannounced and/or off-hours demonstration may be conducted during or independent of the biennial exercise required by Appendix E of 10 CFR Part 50.

OROs are not required to participate in off-hours or unannounced exercises; however, Luminant encourages the State of Texas and Somervell and Hood County governments to participate in these exercises. CTS-01526

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

d. ~~Remedial Exercises~~State and Local Participation in Ingestion Pathway Exercise CTS-01526

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

~~emergency.~~As stated in FEMA Regulations and guidance in Supplement 4 of NUREG-0654, State and local personnel and resources adequate to verify the capability and response to a radiological release requiring ingestion pathway protective actions beyond the Plume Exposure Pathway EPZ, must participate in the ingestion pathway portion of an exercise at least once every eight years. CTS-01526

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

2. Drills

Luminant maintains adequate emergency response capabilities between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of on-site emergency response capabilities, including activities such as: management and coordination of emergency response, accident assessment, protective action decision-making, and plant system repair and corrective actions. The drills follow preplanned scenarios developed to thoroughly test response of personnel involved. On the spot performance corrections may be made and demonstration of proper performance offered by the drill controller during drills. Upon request, Luminant encourages the State of Texas and Somervell and Hood County governments to participate in the drills.

During these drills, activation of the ERFs may not be necessary. Luminant may use the drills to consider accident management strategies, provide supervised instruction, allow the operating staff to resolve problems and focus on internal training objectives. Luminant may include one or more drills as portions of an exercise.

The activities undertaken in the event of an actual declared emergency may be used to satisfy emergency drill requirements, provided that these activities demonstrate adequate execution of the specified activities.

The drill program includes the following:

a. Communications Drills

Communications links between CPNPP Units 3 and 4, the DPS, and Somervell and Hood County EOCs are tested monthly. Communications between CPNPP Units 3 and 4, Federal agencies and the State of Texas are tested quarterly. Communications between CPNPP Units 3 and 4, State and local EOCs and radiological monitoring teams are tested annually. Communications tests evaluate both the operability of the system(s) and the ability to understand message content.

agencies, if necessary. Luminant may coordinate radiological monitoring drills with those drills conducted by the State of Texas and Somervell and Hood County or may conduct these drills independently.

e. Radiation Protection Drills

Luminant conducts on-site Radiation Protection drills at least semi-annually. Radiation Protection drills include:

- Response to and analysis of simulated elevated airborne and liquid activity levels
- Response to simulated elevated area radiation levels
- Analysis of the simulated radiological situation using the appropriate procedures.

f. EOF Activation Drills CTS-01526

Luminant conducts periodic EOF activation drills to demonstrate the ability to perform the consolidated EOF functions set forth in Subsection 4.1 of NUREG-0696. These drills include operation of all facilities that could be used to perform EOF functions, including any support facilities located outside the EOF. The ERO will demonstrate the ability to perform the consolidated EOF functions in at least one drill or exercise per eight-year exercise cycle.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

3. Conduct of Drills and Exercises

Drills and exercise scenarios are developed to provide a method to test and evaluate the CPNPP Units 3 and 4 Emergency Preparedness Program. These scenarios are designed to allow free play in decision-making and shall include, as appropriate:

a. Basic objective(s) of each drill and exercise, and appropriate evaluation criteria;

b. Date(s), time period(s), location(s), and participating organizations;

c. Simulated events;

d. Time schedule of real and simulated initiating events;

4. *Plan Reviews and Updates*

This Plan shall be reviewed, updated as needed, and certified by the Plant Manager to be current on an annual basis. The review includes consideration of items identified during drills and exercises that could affect the Plan~~.~~ and the following: CTS-01526

- After receipt of a license under 10 CFR Part 52, and at least 365 days prior to scheduled fuel load, CPNPP Units 3 and 4 will perform an estimate of the population within the Plume Exposure Pathway EPZ in accordance with 10 CFR Part 50, Appendix E, Section IV.7 and the guidance provided in NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimates" (Reference 20). If the results of this review indicate a population change resulting in the need to update the ETE, CPNPP Units 3 and 4 will update the ETE to reflect the impact of the population increase. CPNPP Units 3 and 4 will submit the updated ETE to the NRC for review in accordance with 10 CFR 50.4 no later than 365 days prior to scheduled fuel load.

- After Units 3 and/or 4 begin operation, CPNPP Units 3 and 4 will conduct a new ETE study and submit an updated ETE Report to the NRC within 365 days of the release of subsequent decennial census data by the U.S. Census Bureau in accordance with regulations. During the years between those in which decennial census data are released, CPNPP Units 3 and 4 conducts annual estimates of the Plume Exposure Pathway EPZ permanent resident population to assess the impact of population changes on the ETE. The annual estimates of permanent resident population are conducted once each year and are based on U.S. Census Bureau annual resident population estimates and State/local government population data (if available). The first periodic estimate will be completed within 365 days following the date that the updated ETE Report, based on the decennial census, is submitted to the NRC.

  If the annual estimate of permanent resident population indicates that the permanent resident population change results in a need to update the ETE, CPNPP Units 3 and 4 will undertake performance of an updated ETE study to reflect the impact of the population change.

  CPNPP Units 3 and 4 will submit an updated ETE Report to the NRC in accordance with 10 CFR 50.4 no later than 365 days following release of decennial census data or following determination that the population criteria requiring an updated ETE have been met. Luminant submits any updated ETE analysis to the NRC at least 180 days before using it to form protective action recommendations and providing it to state and local governmental authorities for use in developing off-site protective action strategies.

- On an annual basis, changes to the Emergency Plan will be reviewed to determine the affect they may have on the On-Shift Staffing Analysis. This review will determine whether any changes to the Emergency Plan include changes in on-shift staffing, the assignment of key responsibilities, the introduction of key technologies, or other changes that could affect the results of the On-Shift Staffing Analysis. The On-Shift Staffing Analysis is updated if it is determined that assumptions presented in the On-Shift Staffing Analysis are affected by changes to the Emergency Plan. CTS-01526

- Likewise, this plan will be updated to account for any change to shift staffing that has been identified by updates to the On-Shift Staffing Analysis.

~~The Station Operations Review Committee (SORC) shall review changes to the Plan and submit recommended changes to the Operations Review Committee (ORC). Any changes identified by drills and exercises are incorporated into the Plan following approval by the Plant Manager.~~

On an annual basis, the Emergency Planning Manager reviews the procedures for emergency classification with the State of Texas and Somervell and Hood County. Review of the EPPs is conducted at least biennially.

The Station Operations Review Committee (SORC) shall review changes to the Plan and submit recommended changes to the Operations Review Committee (ORC). Any changes identified by drills and exercises are incorporated into the Plan following approval by the Plant Manager. CTS-01526

Letters of Agreement with supporting agencies are maintained in the CPNPP Emergency Planning Office and are reviewed annually.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

5. Distribution of Revised Plans

Upon completion of the annual review, the Emergency Planning Manager or designee incorporates any necessary changes. These documents are controlled and revised in accordance with site administrative policies.

Following approval of the updated Plan by the Plant Manager, the document control organization distributes the updated plan to the designated organizations/individuals with emergency response/planning responsibilities.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

6. Supporting Plans

The following list identifies supporting plans and their sources.

- Texas Emergency Management Plan

  Source: Texas Department of Public Safety

- Somervell County Emergency Management Plan and Manual of Emergency Procedures

  Source: Somervell County Government

- Hood County Emergency Management Plan and Manual of Emergency Procedures

  Source: Hood County Government

- Squaw Creek Park Emergency Plan

  Source: Luminant

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

7. Implementing Procedures

Appendix 5 of this Plan provides a topical listing of EPPs that support this Plan.

Certain emergency plan features recommended by NUREG-0654 (e.g., Evaluation Criterion I.3, which addresses methods and techniques for determining source terms and the magnitude of releases) are procedural in nature and have been appropriately placed in EPPs. Changes to the affected portions of these procedures are developed and approved consistent with the requirements of 10 CFR 50.54(q) and the guidance provided in NRC Regulatory ~~Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes"~~Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors" (Reference 21). CTS-01526

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

8. Table of Contents

The format for this Plan directly follows the format of NUREG-0654. Appendix 8 of this Plan provides a cross-reference between this Plan, 10

III. References and Appendices

A. Cited References

1. U.S. Nuclear Regulatory Commission, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Rev. 1, October 1980.

2. U.S. Nuclear Regulatory Commission, "NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants," Revision 0, November 2011. CTS-01526

3. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Rev. 3, August 1992.

~~4. Luminant Generation Company LLC, "Comanche Peak Units 3 and 4 COLA Part 2 Final Safety Analysis Report," Revision 0, September 2008.~~ CTS-01526

4. U.S. Nuclear Regulatory Commission, "NRC Incident Response Plan," NUREG-0728, Rev. 4, April 2005.

5. U. S. Department of Energy, "Federal Radiological Monitoring and Assessment Center Operations Plan," DOE/NV 11718-080, December 2005.

6. U.S. Department of Homeland Security, "National Response Framework," January 2008.

7. Nuclear Energy Institute, "Methodology for Development of Emergency Action Levels" NEI 99-01, Rev. 5, February 2008.

8. Nuclear Energy Institute, "Methodology for Development of Emergency Action Levels, Advanced Passive Light Water Reactors," NEI 07-01, Rev. 0, September 2007.

9. U.S. Nuclear Regulatory Commission, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," NUREG-1022, Rev. 2, October 2000.

10. Mitsubishi Heavy Industries, Ltd., "Design Control Document for the US-APWR, Rev. 1, August 2008.

11. FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, FEMA, November 1985

12. FEMA CPG 1-17, "Outdoor Warning Systems Guide," March 1980

13. U.S. Nuclear Regulatory Commission, "Functional Criteria for Emergency Response Facilities," NUREG-0696, February 1981.

14. U.S. Nuclear Regulatory Commission, "Clarification of TMI Action Plan Requirements," NUREG-0737, Supplement 1, January 1983.

15. Luminant Generation Company, LLC, "Squaw Creek Park Emergency Plan, January 2007.

16. U.S. Nuclear Regulatory Commission, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants - Criteria for Protective Action Recommendations for Severe Accidents," NUREG-0654/FEMA-REP-1, Supplement 3, July 1996.

17. U.S. Environmental Protection Agency, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," EPA-400-R-92-001, October 1991.

18. KLD Associates, Inc., "Comanche Peak Nuclear Power Plant Units 3 and 4 Development of Evacuation Time Estimates," April 2008.

19. U.S. Nuclear Regulatory Commission, "Development of Evacuation Time Estimate Studies for Nuclear Power Plants," NUREG/CR-6863, January 2005.

20. ~~U.S. Nuclear Regulatory Commission, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants - Criteria for Utility Offsite Planning and Preparedness," NUREG-0654/FEMA-REP-1, Supplement 1, November 1987.~~U.S. Nuclear Regulatory Commission, "Criteria for Development of Evacuation Time Estimates," NUREG/CR-7002, November 2011. CTS-01526

21. U.S. Nuclear Regulatory Commission, ~~"Clarifying the Process for Making Emergency Plan Changes," RIS 2005-02, February 2005.~~Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," Revision 0, November 2011.

B. Supplemental References

1. NRC IN 91-77- Shift Staffing at Nuclear Power Plants

2. NRC IN 93-81 – Implementation of Engineering Expertise On Shift

3. NRC IN 95-48 – Results of Shift Staffing Study

I. Introduction

This appendix provides information regarding the process used by CPNPP to assess radionuclide atmospheric transport and diffusion under emergency conditions as discussed in Appendix 2 to NUREG-0654/FEMA-REP-1. Appendix 2 of NUREG-0654/FEMA-REP-1 identifies three topics:

- Meteorological measurements
- Atmospheric transport and diffusion assessment
- Remote interrogation

Section 2.3 of the CPNPP FSAR provides a detailed discussion of the facility's meteorological data system and remote access to the associated data, this appendix provides only a brief discussion of these topics. Therefore, this Appendix describes the design of the atmospheric transport and diffusion assessment models for CPNPP.

II. Discussion

10 CFR 50.47(b)(9) requires that the licensee describe in its Emergency Plan methods to provide and maintain "adequate methods, systems, and equipment for assessing and monitoring actual or potential off-site consequences of a radiological emergency condition..." Appendix E to 10 CFR 50 requires that the licensee's Emergency Plans describe "equipment for determining the magnitude of and for continuously assessing the impact of the release of radioactive materials to the environment." CTS-01524

A. Meteorological Measurements

Appendix 2 to NUREG-0654 provides guidance for complying with the requirement in 10 CFR Part 50, Appendix E. CPNPP FSAR Subsection 2.3 discusses the design of the meteorological measurement system. This design addresses the guidance provided in Supplement 1 to NUREG-0737. The meteorological measurements program is consistent with Revision 1 to NRC Regulatory Guide 1.23[1].

B. Atmospheric Transport and Diffusion Assessment

Appendix E to 10 CFR 50 requires that licensee Emergency Plans describe, "the means to be used for determining the magnitude of and for continually assessing the impact of the release of radioactive material..." NUREG-0654/FEMA-REP-1 discuses two classes of atmospheric transport and diffusion models. The model used for CPNPP is a "Class B" model as described in Appendix 2 of NUREG-0654/FEMA-REP-1: "a numerical model which predicts the spatial and temporal variations of plume distribution and

1. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.23, Rev. 1, "Meteorological Monitoring Programs for Nuclear Power Plants," Washington, DC, March 2007.

provides estimates of deposition and relative concentration of radioactivity within the plume exposure and ingestion pathway emergency planning zones for the duration of any radioactive materials releases during a declared emergency."

C. Remote Access

Appendix 2 of NUREG-0654/FEMA-REP-1 provides guidance concerning remote interrogation. The guidance supports the requirement in 10 CFR 50, Appendix E. Regulatory Guide 1.23 also discusses remote interrogation capability. FSAR Subsection 2.3 addresses provisions for remote access to the meteorological system. Remote access to meteorological data is provided to the TSC and EOF.

III. Design Description: Atmospheric Transport and Diffusion Assessment

The remainder of this appendix describes the design of the atmospheric transport and diffusion assessment models. The design addresses the following program elements for accident assessment that demonstrate compliance with requirements in 10 CFR 50.47(b)(9) and evaluation criteria from NUREG-0654/FEMA-REP-1 discussed in Section II.I of this plan:

1. The means to provide initial and continuing radiological assessment throughout the course of an accident.

2. The means to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors.

3. The means to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and off-site exposures and contamination for various meteorological conditions. CTS-01524

4. The means to make rapid assessment of potential magnitude and locations of any radiological hazards through gaseous release pathways.

5. The means to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA Protective Action Guides (PAGs).

CPNPP's Radiological Assessment personnel use the Comanche Peak Assessment Model Projecting Estimated Dose Evaluation (CPAMPEDE) computer program described below to perform dose assessment calculations under emergency conditions. CPAMPEDE is a Windows-based, menu driven program which has the capability to provide near real time estimates of potential doses to individuals from releases of radioactive materials via the atmospheric pathway and to back-calculate release rates from field measurements.

I. Summary

This Appendix describes the Alert and Notification System (ANS) required by 10 CFR 50.47(b) (5) to alert the public in the Comanche Peak Nuclear Power Plant (CPNPP), plume exposure pathway EPZ in the event of a declared emergency requiring public response. The Comanche Peak Steam Electric Station Alert and Notification System Final Report, updated and revised September 28, 2004 (ANS Report), submitted as supplemental information in Part 5 of the CPNPP COLA, describes the system in place for Units 1 and 2. The current system meets all related regulations and guidance. The objective of the Alert and Notification System is to alert the public in the CPNPP EPZ of an emergency requiring specific action that will be provided by State and local emergency management officials. These actions may include protective actions that may be required.

This Appendix describes the outdoor warning devices (sirens), including equipment capabilities, and details the means of satisfying the criteria provided in Appendix 3 of NUREG-0654 which references FEMA CPG 1-17, "Outdoor Warning Systems Guide." Additional guidance is also provided in FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants."

Table A8-3 in Appendix 8 of this Plan provides a cross-reference to these provisions.

II. Concept of Operations

The ANS consists of fixed sirens in the Plume Exposure Pathway EPZ that serves as the primary means of alerting the public of an emergency at CPNPP requiring public protective actions. ~~The State of Texas and Somervell and Hood Counties' Plans describe the backup means of alerting and notifying the public (as discussed in Section II.E.6).~~ CTS-01526

Somervell and Hood Counties each have the capability to control the activation of the portion of the Alert and Notification System within its respective boundaries. In addition, each County can activate all or part of the sirens located in the other County, if necessary.

The emergency plans of the State of Texas and Somervell and Hood Counties include the organizations and individuals, by title, which are responsible for decision-making regarding the Alert and Notification System. Once alerted, the public is provided emergency information and instructions on the Emergency Alert System (EAS), which is described in State and local emergency response plans. The county locations from which the sirens will be activated are manned 24 hours per day. Each organization's Plan contains provisions for disseminating emergency instructions to the public. The State of Texas Plan includes a description of the information that would be communicated to the public under various radiological emergency conditions.

III. CPNPP Alerting System Design Criteria

The existing CPNPP siren system design is consistent with the guidance provided in Appendix 3 of NUREG-0654; FEMA CPG 1-17, and FEMA-REP-10. Specifically, the system design basis incorporates the following features:

A. Capabilities

The siren system is capable of providing an alerting signal that is at least 10 dB above the ambient background noise level throughout the EPZ within 15 minutes from the time the appropriate off-site agencies have determined the need for such alerting exists. Additionally, no member of the public will be exposed to sound levels in excess of 123 dB.

B. Siren Coverage within 5-Mile Radius of CPNPP

The system provides coverage for essentially 100% of the population within 5 miles of CPNPP.

C. Special Alerting Arrangements

Parks and public recreational areas within the CPNPP EPZ are covered by the sirens. The alerting requirements for industrial sites and institutions were determined with consideration given to existing alerting mechanisms.

D. Backup Means for Alert and Notification CTS-01526

The State of Texas and Somervell and Hood Counties' Plans describe the backup means of alerting and notifying the public (as discussed in Section II.E.6 of this Plan).

E. Population Density within the CPNPP EPZ

The population density within the EPZ was reviewed during preparation of the ANS Report. No population center had a density of greater than 2,000 persons per square mile. For the cities of Glen Rose and Granbury, siren sound pressure level coverage was determined in accordance with CPG 1-17 guidelines for suburban and rural areas. On this basis, the siren coverage is designed to provide an alerting signal 10 db above the average daytime ambient background. Accordingly, the applicable guidance in NUREG-0654 is satisfied.

F. Field Sound Survey

The CPNPP system was designed without a field sound survey. Over 90% of the CPNPP EPZ was designed to receive a SPL of at least 60 dB. An attenuation factor of 10 dB loss per distance doubled as discussed in FEMA CPG 1-17 was used as the design basis of siren coverage for the CPNPP alerting system. Actual placement of the sirens was determined by the local topography, demography and special requirements of a particular siren site.

IV. Existing CPNPP Alerting System

The existing ANS consists of a network of 72 sirens located throughout the Plume Exposure Pathway EPZ. The sirens are radio controlled and activated by Federal Commander Digital Controller SS2000 encoders, which provide computer based data feedback, located in the Somervell and Hood County Sheriff's Office. A third control point, located at the CPNPP site, is used for diagnostic purposes, verification of test data and post-maintenance testing. The controllers located in the county's Sheriffs' offices are used to activate the siren system during an emergency. The siren system is divided into four quadrants, each of which could be activated from either Sheriff's Office. Each quadrant can be activated independently, or in conjunction with any other or all other quadrants. The process for activating the ANS is discussed in further detail in Section V.

A. Siren Characteristics

According to the ANS Report, as verification of the vendor's rated output, sound level measurements were taken 50 ft in the air at 100 ft from a siren. Maximum siren output was recorded to be 126 dB(C). As the data taken in the field was within 2 dB of the manufacturer's rating, the full rated siren output of 128 dB was used as the design basis for the siren SPL.

The maximum sound level to be expected at a given distance from each siren was determined based on a factor a 10 dB loss per distance doubled.

The design of the CPNPP siren system assumed a circular SPL contour for each siren. As discussed in Section III.G of this Appendix, sirens were sited with consideration given to the local topography to compensate for areas where a circular SPL was not likely to be obtained.

The alert signal is set to sound for slightly over 3 minutes and may be repeated as often as necessary.

The State of Texas and Somervell and Hood Counties' Plans describe the backup means of alerting and notifying the public (as described in Section II.E.6 of this Plan). CTS-01526

B. Siren Installation

Siting and spacing of the devices to achieve the desired coverage considered topography and demography of the EPZ. The design coverage guidance provided in Appendix 3 of NUREG-0654.

Acceptance testing of a number of sirens determined that the maximum SPL measured around any actual siren installation location, at ground level 100 ft from the siren, was 123 dB.

Table A8-2 NUREG-0654 Crosswalk to COL Emergency Plan, State, and Local Emergency Plans (Sheet 19 of 22)

NUREG-0654 Eval. Criterion	COL Plan	State of Texas	Somervell County	Hood County
M.3	Plan § II.M.3	Procedure 22, Section II.D (second paragraph) Procedure 22, Section VII	NA	NA
M.4	Plan § II.M.4	Procedure 1, Section VII.D	NA	NA
N.1.a	Plan § II.N.1.a	Annex D, Tab 1, Attachment 4, Section II.A	BP p. 14, VI.B.3.a.8) AW MOP p. 139-141, App. 8, Att. T	BP p. BP-15, VI.B.3.c.5) AW MOP p. 145-147, App. 9, Att. T
N.1.b	Plan § II.N.1.b	Annex D, Section V.B.g, page D-7 Annex D, Tab 1, Attachment 4, Section II.A	BP, p. 31-32, X.C.&D AW MOP p. 139-141, App. 8, Att. T	BP, p. BP-32, X.C.&D AW MOP p. 145-147, App. 9, Att. T
N.1.c	Plan § II.N.1.c	NA	NA	NA
N.1.d	NA	Annex D, Section V.B.g, page D-7 Annex D, Tab 1, Attachment 4, Section II.A	BP, p. 31-32, X.C &D AW MOP p. 139-141, App. 8, Att. T	BP, p. BP-32, X.C &D AW MOP p. 145-147, App. 9, Att. T
N.2.a	Plan § II.N.2.a	Annex D, Appendix 2, Section 1.a.1,3&5 Annex D, Appendix 2, Section 1.b.4 Annex D, Tab 1, Attachment 4, Section II.B.1&C.1-3	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147 App. 9, Att. T
N.2.b	Plan § II.N.2.b	NA	NA	NA
N.2.c	Plan § II.N.2.c	NA	AW MOP p. 139-141, App. 8, Att. T Somervell County Volunteer Fire Department (VFD), EMS SOP Glen Rose Medical Center Plan and Procedures LGMC Plan and Procedures Texas Health – Harris Methodist Hospital – Cleburne, Plan and Procedures	AW MOP p. 145-147, App. 9, Att. T Granbury/Hood County EMS SOP Lake Granbury Medical Center (LGMC) Plan and Procedures Texas Health – Harris Methodist Hospital – Cleburne, Plan and Procedures T
N.2.d	Plan § II.N.2.d	Annex D, Tab 1, Attachment 4, Section II.B.4	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147, Appendix 9 Attachment T
N.2.e(1)	Plan § II.N.2.e	Annex D, Tab 1, Attachment 4, Section II.B.4	NA	NA
N.2.e(2)	Plan § II.N.2.e	NA	NA	NA

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Table A8-2 NUREG-0654 Crosswalk to COL Emergency Plan, State, and Local Emergency Plans (Sheet 20 of 22)

NUREG-0654 Eval. Criterion	COL Plan	State of Texas	Somervell County	Hood County
N.3.a	Plan § II.N.3.a	Annex D, Tab 1, Attachment 4, Section IV	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147, Appendix 9 Attachment T
N.3.b	Plan § II.N.3.b	Annex D, Tab 1, Attachment 4, Section IV.3	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147, Appendix 9 Attachment T
N.3.c	Plan § II.N.3.c	Annex D, Tab 1, Attachment 4, Section IV.4	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147, Appendix 9 Attachment T
N.3.d	Plan § II.N.3.d	Annex D, Tab 1, Attachment 4, Section IV.5	AW MOP p. 139-141, App. 8, Att. T	AW MOP p. 145-147, Appendix 9 Attachment T
N.3.e	Plan § II.N.3.e	Annex D, Tab 1, Attachment 4, Section IV.6	AW MOP p. 139-141, App 8, Att T	AW MOP p. 145-147 Appendix 9 Attachment T
N.3.f	Plan § II.N.3.f	Annex D, Tab 1, Attachment 4, Section IV.7	AW MOP p. 139-141, App 8, Att T	AW MOP p. 145-147, Appendix 9 Attachment T
N.4	Plan § II.N.4	Annex D, Tab 1, Attachment 4, II.A (second paragraph) Annex D, Section V.B.g, page D-7 Aneex D, Tab 1, Attachment 4, Section II.A	BP, p. 31-32, X.C&D AW MOP p. 139-141, App 8, Att T	BP, p. BP-32, X.C&D AW MOP p. 145-147, Appendix 9 Attachment T
N.5	Plan § II.N.5	Annex D, Tab 1, Attachment 4, Section II.A (last sentence)	AW MOP .p 139-141, App 8, Att T	AW MOP p .145-147, Appendix 9 Attachment T
O.1	Plan § II.O.1	Annex D, Section V.B.1.a&g Annex D, Section VIII.B Annex D, Appendix 2, Section 1.a.1&3 Annex D, Tab 1, Section VIII Annex D, Tab 1, Attachment 4	BP p. 14, VI.B.3.a.8) AW MOP p. 139-141, App. 8, Att. T	BP p. BP-15, VI.B.3.c.5) AW MOP p. 145-147, App. 9, Att. T
O.1.a	Plan § II.O.1.a	NA	NA	NA
O.1.b	NA	Annex D, Section V.B.1.a&g Annex D, Appendix 2, Section 1.a.2&3 Annex D, Tab 1, Attachment 4, Section I.A	AW MOP p 139-141, App. 8, Att. T	AW MOP p. 145-147, App. 9, Att. T
O.2	Plan § II.O.2	NA	NA	NA
O.3	Plan § II.O.3	NA	NA	NA
O.4.a	Plan § II.O.4.a	Annex D, Tab 1, Attachment 4, Section I	AW MOP p 139-141, App. 8, Att. T	AW MOP p. 145-147, App. 9, Att. T
O.4.b	Plan § II.O.4.b	Annex D, Tab 1, Attachment 4, Section I.E	State Responsibility[1]	State Responsibility[1]

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Table A8-3 COL Emergency Plan Appendix 3 Cross-Reference

NUREG-0654 Appendix 3 Criteria for Acceptance	COL Emergency Plan Appendix 3	
A	II	
B.1	II	
B.2.a	III.A	CTS-01526
B.2.b	III.B	
B.2.c	III.C	
B.2.d	III.D	CTS-01526
B.3	II	
C.1	V	
C.1.a	V.A	
C.1.b	V.A	
C.1.c	IV	
C.1.d	II,V.B	
C.1.e	NA	
C.1.f	NA	
C.1.g	NA	
C.2.a	NA	
C.2.b	NA	
C.2.c	NA	
C.2.d	NA	
C.3	III.A, III.G, III.H, III.I	
C.3.a	III.D	
C.3.b	III.D	
C.3.c	III.C, III.E	
C.3.d	III.D	
C.3.e	III.E	
C.3.f	NA	
C.3.g	IV.A	
C.3.h.1	III.F, VI.B, VI.C	
C.3.h.2	III.F, VI.B	
C.4.a	NA	
C.4.b	NA	
C.4.c	NA	
C.4.d	III.C	

NA = Not Applicable