CHAPTER 7

INSTRUMENTATION AND CONTROLS

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ACRONYMS AND ABBREVIATIONS

COL	Combined License
CPNPP	Comanche Peak Nuclear Power Plant
DCD	Design Control Document
EOF	emergency operations facility
ESW	essential service water
ESWS	essential service water system
HVAC	heating, ventilation, and air conditioning
MCR	main control room
NRC	U.S. Nuclear Regulatory Commission
PAM	post accident monitoring
TSC	technical support center
UHS	ultimate heat sink
UHSS	ultimate heat sink system

7.0 INSTRUMENTATION AND CONTROLS

7.1 INTRODUCTION

This section of the referenced Design Control Document (DCD) is incorporated by reference with no departures or supplements.

7.2 REACTOR TRIP SYSTEM

This section of the referenced DCD is incorporated by reference with no departures or supplements.

7.3 ENGINEERED SAFETY FEATURE SYSTEMS

This section of the referenced DCD is incorporated by reference with no departures or supplements.

7.4 SYSTEMS REQUIRED FOR SAFE SHUTDOWN

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

7.4.1.6 Normal and Safe Shutdown Functions

STD COL 7.4(1) Replace the second paragraph in DCD Subsection 7.4.1.6 with the following.

Site-specific component control and indication to achieve shutdown and as related to the ultimate heat sink (UHS) is presented in Tables 7.4-201 and 7.4-202. A system description of the UHS is provided in Subsection 9.2.5.

7.4.4 Combined License Information

Replace the content of DCD Subsection 7.4.4 with the following.

CP COL 7.4(1)
STD COL 7.4(1) ***7.4(1)*** *Description of component controls and indications required for safe shutdown related to UHS*

This Combined License (COL) item is addressed in Subsection 7.4.1.6, and Tables 7.4-201 and 7.4-202.

CP COL 7.4(1)

Table 7.4-201

Site-Specific Component Controls for Shutdown

Systems	Components	Normal Shutdown	Safe Shutdown
UHSS	UHS Cooling Tower Fans	Yes	Yes
	UHS Transfer Pump	No	Yes
	UHS Transfer Pump Discharge Valve	No	Yes
	UHS Transfer Line Basin Inlet Valve	No	Yes
	UHS Basin Makeup Control Valve	Yes	No
ESWS	UHS Basin Blowdown Control Valve	Yes	Yes
	ESW Pump Discharge Strainer Backwash Isolation Valve to ESWS blowdown main header	Yes	Yes
	ESWS Blowdown Main Header Isolation Valve to CWS blowdown main header	Yes	Yes
HVAC	ESW Pump Room Exhaust Fan	Yes	Yes
	UHS Transfer Pump Room Exhaust Fan	No	Yes
	ESW Pump Room Unit Heater	Yes	Yes
	UHS Transfer Pump Room Unit Heater	No	Yes

STD COL 7.4(1)

Table 7.4-202

Site-Specific Indication for Shutdown

Systems	Instruments	Number of Channels	Normal Shutdown	Safe Shutdown
UHSS	UHS Basin Water Level	2 per Basin	Yes	Yes
	UHS Basin Temperature	1 per Basin	Yes	Yes

7.5 INFORMATION SYSTEMS IMPORTANT TO SAFETY

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

7.5.1.1 Post-Accident Monitoring

STD COL 7.5(1) Replace the seventh paragraph in DCD Subsection 7.5.1.1 with the following.

Site-specific type D post accident monitoring (PAM) variables related to the UHS and site-specific type E PAM variables for monitoring the meteorological parameters are presented in Table 7.5-201.

7.5.1.6.2 Emergency Operations Facilities

CP COL 7.5(2) Replace the third paragraph in DCD Subsection 7.5.1.6.2 with the following.

The emergency operations facility (EOF) of the Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4 is located in the existing nuclear operations support facility, which is west of the reactor building.

The EOF is large enough to provide the following:

- Workspace for the personnel assigned to the EOF
- Space for the new displays and other related equipment associated with CPNPP Units 3 and 4
- Space for unhindered access to communication equipment related to CPNPP Units 3 and 4 by all EOF personnel
- Space for storage of and/or access to plant records and historical data
- A separate room for private U.S. Nuclear Regulatory Commission (NRC) consultations

The EOF working space is currently sized for 45 persons, including federal, state, and local emergency personnel. The existing EOF floor space is approximately 3200 sq. ft. The EOF is designed and equipped to support continuous operations over an extended period of time.

Displays associated with CPNPP Units 3 and 4 are common to both units with a unit-display selection capability. Post-accident monitoring, bypassed and inoperable status indication, plant alarms, and safety parameter display system

information is displayed on non-safety human-system interface equipment in the EOF. The information displayed in the EOF, main control room (MCR), and technical support center (TSC) is identical, although the manner in which it is displayed may vary (e.g., single screen, multiple screens, single monitor, multiple monitors, etc.). The displays and communication related auxiliary equipment is strategically located in the existing EOF. Neither the EOF nor the TSC has plant control capability.

7.5.4 Combined License Information

Replace the content of DCD Subsection 7.5.4 with the following.

CP COL 7.5(1)
STD COL 7.5(1)

7.5(1) *Description of site-specific PAM variables*

This COL item is addressed in Subsection 7.5.1.1 and Table 7.5-201.

CP COL 7.5(2)

7.5(2) *Description of site-specific EOF*

This COL item is addressed in *Subsection 7.5.1.6.2*.

CP COL 7.5(1)

Table 7.5-201

Site-Specific PAM Variables

Variable	Range	Monitored Function or System	Quantity	Type
UHS Basin Water Level	0 - 100% Span	Cooling Water System	2 per Basin	D
ESW Header Pressure	0 - 150 psig	Cooling Water System	1 per Line	D
UHS Basin Temperature	32 - 140°F	Cooling Water System	1 per Basin	D
Meteorological Parameters	Note 1	Meteorology	1 per each variable	E

Note:

1. Wind speed, wind direction, temperature and delta temperature in the meteorological monitoring system are the PAM variables in the meteorological monitoring system. (See FSAR Subsection 2.3.3.2)

7.6 INTERLOCK SYSTEMS IMPORTANT TO SAFETY

This section of the referenced DCD is incorporated by reference with no departures or supplements.

7.7 CONTROL SYSTEMS NOT REQUIRED FOR SAFETY

This section of the referenced DCD is incorporated by reference with no departures or supplements.

7.8 DIVERSE INSTRUMENTATION AND CONTROL SYSTEMS

This section of the referenced DCD is incorporated by reference with no departures or supplements.

7.9 DATA COMMUNICATION SYSTEMS

This section of the referenced DCD is incorporated by reference with no departures or supplements.