COMANCHE PEAK STEAM ELECTRIC STATION

EMERGENCY RESPONSE GUIDELINE GENERIC PLANT COMPARISON

FOR INFORMATION ONLY

GENERIC PLANT COMPARISON

REVISION DATE August 15, 1984

SUBMITTED BY Ralph Plant TITLE Engineer DATE 8/10/84

REVIEWED BY Norman L Terrell DATE 8/20/84
ENGINEER

APPROVED BY J L G Hill DATE 8/21/84
OPERATIONS ENGINEER

Generic Plant Comparison to CPSES

System	CPSES differences	Justification Completed
RCS	The RCS has no bypass manifolds and untilizes N-16 detectors.	Yes p. 4 of 17. Reference FASR p. 7.2-16 Section 7.2.1.1.4, 7.2.1.1 & 7.2.1.1.4.2.
RCS	The over pressure protection for RCS at low temperaturs is automatically placed in service	Yes p. 5 of 17. Reference FSAR p. 7.6-22 Section 7.6.8.
ECCS	CPSES design does not incorporate a BIT as part of ECCS.	Yes p. 6 of 17. Reference Westinghouse proposal for BORON REDUCTION/ BIT REMOVAL ANALYSIS and W-letter TBX(ATP) 79-325 concerning the same matter.
ECCS	Charging miniflows do not remain open on an SI signal.	Yes p. 7 of 17. Reference 2323-M1-0255 & 2323-M1-2255-21.
Containment Ventilation	The containment fan coolers at CPSES, are not used for heat removal purposes in emergency conditions.	Yes p. 8 of 17. Reference FSAR Sec. 6.2.2., p. 6.2-42.
Containment Ventilation	Ventilation Chill Water is the cooling supply to the Containment Air Cooling and Recirc. Fans.	Yes p. 9 of 17. Reference FSAR Sec. 9.4A.1.1, p. 9.4A-1 & 2323-M1-0300.
Main Feedwater	CPSES design does not utilize a Motor Driven Feed Pump	Yes p. 10 of 17. Reference FSAR p. 10.4-58.
Main Feedwater	The feedwater system design causes slight variations in the valves that are closed on feedwater isolation.	Yes p. 11 of 17. Reference 2323-M1-2203-05, 07 & 08
Auxiliary Feedwater	Each Motor Driven AFW pump is normally aligned to feed 2 SGs but can be aligned to feed all 4 SGs.	Yes p. 12 of 17. Reference FSAR p. 10.4-80.

Generic Plant Comparison to CPSES

System	CPSES differences	Justification Completed
Reactor Vessel Level Indication System	CPSES does not plan to have RVLIS in operation until the first refueling outage.	Yes p. 13 of 17. Reference Tech Specs Table 3.3-10, p. 3/4.3-62.
Containment Spray	CPSES utilizes Four Containment Spray Pumps for 2 trains.	Yes p. 14 of 17. Reference FSAR Sect. 6.5.2, p. 6.5-12 and 2323-M1-0232.
Containment Spray	The Containment Spray pumps get a start signal on a SI signal, as well as Phase "B" and Manual.	Yes p. 15 of 17. Reference FSAR p. 6-2-16 [23].
ECCS	RWST level low-low auto switchover to containment sump arrangement, including auto switch over block.	Yes p. 16 of 17. Reference FSAR p. 6.3-24 [22] and 2323-M1-2263-06
RCS	CPSES utilize 700# nitrogen to operate their PORVs.	Yes p. 17 of 17. Reference FSAR Sec. 5.4.13.2., p. 5.4-80 and 2323-M1-0262.

1. **Difference Description** CPSES does not utilize a bypass line T hot and T cold measurements for the purpose of RCS average temperatures.

2. **Justification** The bypass manifold arrangement has been replaced with a N-16 monitor and an in-line T cold measurement. The N-16 power monitor measures N-16 present in RCS due to neutron activation of oxygen contained in water. This is used with T cold to determine T avg. Indication for all temperatures remain the same.

3. **Completed by** Bert Smith **DATE** 7-6-84

The difference mentioned above does not compromise the generic technical basis for the guidelines.

Ralph Flores 8/7/84
ENGINEER DATE

The difference mentioned above does not affect the overall objective of the Plant Specific ERG's

Ralph Flores 8/7/84
ENGINEER DATE

Generic Procedure Reference: EOP-0.0, EOS-0.1, EOS-1.1

Comments:

1. **Difference Description** The RCS overpressure system at low temperature is automatically place in service.

2. **Justification** RCS low temperature pressure control includes automatic actuation logic for 2 Pressurizer power operated relief valves. This actuation logic will only be unblocked when plant oepration is at a temperature below Reference Nil Dutility Temperature. This difference is an improvement over the reference plant, since no operator action is required

3. **Completed by** Bart Smith **DATE** 7-6-84

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Ralph Flores 8/8/84
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ENGINEER DATE

Generic Procedure Reference: NONE (NO OPERATOR ACTION REQUIRED)

Comments:

1. **Difference Description** The Centrifugal Charging portion of ECCS does not incorporate a Boron Injection Tank

2. **Justification** CPSES eliminated the BIT and it's associated equipment after Westinghouse completed extensive studies in this area. CPSES design was such that elimination of the BIT did not lower the level of safety. (i.e. flow restrictors integral to SGs).

3. Completed by John Smith DATE 7-6-84

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Ralph Flores / 8/8/84
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Generic Procedure Reference: EOP-0.0, EOS-1.1, EOS-1.2, EOP-3.0, ECA-2.1, ECA-3.1, ECA-3.2, ECA-3.3, FRH-0.1, FRP-0.1

Comments:

1. **Difference Description** The charging miniflow valves do not remain open on an SI at CPSES.

2. **Justification** Each CCP has a new miniflow arrangement. On an "S" signal, normal miniflow valves close and valves 8511 A & B open aligning a miniflow flowpath to a relief to open on high pressure. 8512 A & B are in series with 8511 A & B and are administratively kept open. This difference is an improvement since no operator action is required

3. **Completed by** Bart Smith **DATE** 7-6-84

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Generic Procedure Reference: EOP-0.0, EOS-0.1, EOS-0.2, EOS-0.4, EOS-1.1, EOP-3.0, EOS-3.1, EOS-3.2, EOS-3.3, ECA-2.1, ECA-3.1, FRH-0.1

Comments:

1. Difference Description Containment Fan coolers are not used at CPSES for heat removal purposes following an accident.

2. Justification The design flowrate of each train of Containment Spray is sufficient to maintain the Containment pressure and temperature below Containment design values.

3. Completed by Bart Smith DATE 7-6-84

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Generic Procedure Reference: EOP-0.0, ECA-0.1, ECA-0.2, ECA-1.1, FRZ-0.1

Comments:

1. **Difference Description** The Containment Air Recirculation and cooling System Fans utilize Ventilation Chilled Water as their cooling medium while the generic reference plant uses CCW.

2. **Justification** This system is not required to operate following a DBA so the post accident CCW cooling is not required. It is required for loss of offsite power so it is sequenced on as well as the Ventilation Chilled Water System.

3. Completed by Bart Smith DATE 7-6-84

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Generic Procedure Reference: EOP-0.0, ECA-0.1, ECA-0.2, ECA-1.1, FRZ-0.1

Comments:

1. **Difference Description** CPSES design does not incorporate a Motor Driven Feedwater Pump

2. **Justification** CPSES utilizes two 50% capacity feedwater pump. The dual admission feedwater pump turbine drivers operate with steam from two sources. One pump is required up to 50% power and from 50% to full power both are required. The Condensate Pumps can be used to pump water at lower pressures.

3. **Completed by** Bert Smith **DATE** 7-6-84

The difference mentioned above does not compromise the generic technical basis for the guidelines.

Ralph Flores 8/8/84
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ENGINEER DATE

Generic Procedure Reference: *EOP-0.0, EOP-3.0, EOS-0.1, EOS-0.2, FRZ-0.1, FRH-0.5, FRH-0.1

Comments:

1. **Difference Description** Due to the preheater arrangement in CPSES SGs the feedwater isolation signal closes more valves than the same signal of the generic plant reference.

2. **Justification** A feedwater isolation signal closes the F.W. Preheater Valves and F.W. Splitflow Bypass Valve in addition to the normal valves. This ensures feedwater isolation to the SGs. These additional valves are checked in the steps for feedwater isolation of the emergency procedures.

3. Completed by Bart Smith DATE 7-6-84

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Ralph Flores 8/8/84
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Generic Procedure Reference: EOP-0.0, EOS-0.1, EOP-1.0, EOP-2.0, EOP-3.0, ECA-3.1, FRZ-0.1, FRH-0.3, FRH-0.2

Comments:

1. **Difference Description** The generic plant reference refers to the Motor Driven AFW pumps being lined up to 2 SGs. CPSES's Motor Driven AFW pumps are normally lined up to 2 SGs but have the capability to be lined up to 4 SGs.

2. **Justification** A normally closed interconnection between the motor driven pump discharge lines permits either pump to feed all four SGs. This provides a method for maintaining SG water level on a long-term basis, but will not normally be used. This difference is an improvement over the generic.

3. **Completed by** Burt Smith **DATE** 7-6-84

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Generic Procedure Reference: EOP-0.0, EOP-3.0, EOS-0.1, EOS-0.2, FRZ-0.1, FRH-0.5, FRH-0.1

Comments:

1. **Difference Description** The Reactor Vessel Level Indication System at CPSES will not be operational until the first refueling outage

2. **Justification** The steps that dealt with RVLIS in the emergency procedure were revised as specified in the background documentation of the ERG's to meet plant design at this time. When RVLIS is functional it will be incorporated.

3. **Completed by** Bart Smith **DATE** 7-6-84

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Ralph Flores/ 8/7/84
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Generic Procedure Reference: FRI-0.3, FRC-0.2, FRC-0.1, ECA-2.1, ECA-3.1, ECA-3.2, ECA-3.3, EOS-0.4, EOS-1.4, EOS-3.3 , EOS-0.3

Comments: This sheet will be removed after first refueling when RVLIS is installed.

1. **Difference Description** Containment Spray pumps get a start signal on a SI as well as Phase "B" and Manual signals

2. **Justification** The CSS discharge valves open on a "P" signal which comes from a Phase "B" or Manual actuations. Having the pump start on an SI anticipates the need of the pump if conditions become more severe. This difference is an improvement over the reference plant.

3. **Completed by** Bart Smith **DATE** 7-6-84

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Generic Procedure Reference: EOP-0.0, EOS-0.1, EOS-0.2, EOP-1.0, EOS-1.1, EOS-1.2, EOS-1.3, EOP-3.0, ECA-2.1, ECA-3.1

Comments:

1. **Difference Description** The generic reference plant uses a two Containment Spray Pump arrangement, while CPSES has four contaiment spray pumps.

2. **Justification** The redundancy requirements of the CSS are satisfied by dumplicating 2-100% capacity trains, with each train having 2-50% capacity pumps. This difference does not allow one pump failure to remove the capacity of one train completely.

3. **Completed by** Lee E Smith **DATE** 7-6-84

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Ralph Flores 8/8/84
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Ralph Flores / 8/8/84
ENGINEER DATE

Generic Procedure Reference: EOP-0.0, EOP-1.0, EOS-1.3, ECA-2.1 ECA-3.1, FRZ-0.1, ECA-0.2

Comments:

1. **Difference Description** CPSES's design includes an auto switchover of the RWST to the containment sump as RHR pump suction.

2. **Justification** On an RWST low-low level signal, coincident with an "S" signal, the containment sump valves to RHR pump will open. This arrangement is also set up with reset switches (independent of SI reset), that can reset this function after SI is reset. This difference is an improvement over the reference plant.

3. **Completed by** Bart Smith **DATE** 7-6-84

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Generic Procedure Reference: EOP-0.0, EOP-1.0, EOS-1.1, EOS-1.2, EOS-1.3, EOP-3.0, ECA-2.1, ECA-3.1, ECA-3.2

Comments:

1. **Difference Description** The Pressurizer PORV's at CPSES utilizes Nitrogen gas as their pneumatic driver.

2. **Justification** The PRZR PORV's are pneumatic actuated vavles which respond to a signal from a pressure sensing system or to manual control as per the M-drawing, CPSES uses nitrogen as the pneumatic driver for the PORVs. This is considered a minor difference which does not affect the plant.

3. **Completed by** Bert Smith **DATE** 7-6-84

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Generic Procedure Reference: EOP-0.0, EOS-0.1, EOS-0.2, EOS-0.4, EOP-1.0, EOS-1.1, EOS-1.2, EOP-3.0, EOS-3.1, EOS-3.2, EOS-3.3, ECA-2.1, ECA-3.1

Comments: