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United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

TRANSMITTAL OF REVISION 18 TO THE TECHNICAL SPECIFICATIONS BASES

Ladies and Gentlemen:


This letter transmits copies of Revision 18 to the Technical Specifications (TSs) Bases for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. This revision clarifies operability requirements for the pressurizer Power Operated Relief Valves (PORVs) and the PORV block valves to be consistent with approved Industry/Technical Specification Task Force (TSTF) standard technical specification traveler TSTF-151, "PORV Operability Clarification," Revision 1, as modified to agree with the HBRSEP, Unit No. 2 safety analyses. The revision also includes minor administrative changes and corrections.

Attachment I provides a description of the changes to the Bases in Revision 18.

Attachment II provides copies of replacement pages to the TSs Bases, and includes instructions for removing and inserting the pages on the cover page. Recipients are requested to remove and insert pages in accordance with the instructions provided.

If you have any questions concerning this matter, please contact Mr. H. K. Chernoff.

Sincerely,

for 
B. L. Fletcher III
Manager - Regulatory Affairs

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United States Nuclear Regulatory Commission

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Attachments

- I. Summary of Change to Technical Specifications Bases, Revision 18
- II. Instructions for Removal and Insertion of Pages to the Technical Specifications Bases

- c:
 - L. A. Reyes, NRC, Region II (w/o Attachment II)
 - B. R. Bonser, NRC, Region II
 - R. Subbaratnam, NRC, NRR (3 copies Attachment II)
 - NRC Resident Inspector, HBRSEP

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

SUMMARY OF CHANGE TO
TECHNICAL SPECIFICATIONS BASES, REVISION 18

Description of Change

Technical Specifications (TSs) Bases were revised to clarify operability requirements for the pressurizer Power Operated Relief Valves (PORVs) and the PORV block valves to be consistent with approved Industry/Technical Specification Task Force (TSTF) standard technical specification traveler TSTF-151, "PORV Operability Clarification," Revision 1, as modified to agree with the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2 safety analyses. The revision also includes minor administrative changes and corrections.

PORV Operability in MODEs 1, 2, and 3 is based on manual actuation without reliance on automatic operation to mitigate analyzed accidents in the Updated Final Safety Analysis Report (UFSAR). The Limiting Condition for Operation (LCO) discussion in the Bases are clarified to state the OPERABILITY requirement for the PORV block valves. Since the PORV needs to OPERABLE for manual operation, it follows that the Block valve is OPERABLE if it is either open, or closed and energized with the capability of being opened to achieve the safety function of the PORV relief pathway in MODEs 1, 2, and 3. The discussion is also clarified to indicate that a PORV with excessive seat leakage and its associated block valve in the closed position is still OPERABLE.

A plant specific deviation from the generic change (TSTF) is also taken with respect to the inserted information on the OPERABLE block valve in the Bases LCO section. Since HBRSEP, Unit No. 2 does not credit manual use of the PORVs or block valves for accident mitigation, there is no safety function for the block valve to be capable of manual operation. Therefore, the inserted information states that the block valve is OPERABLE when open and capable of being closed, or when closed.

The accident analyses in the UFSAR conservatively account for PORV operation by opening the valve by inadvertent operation when such operation results in more adverse consequences, or by assuming that the PORVs do not operate in situations where automatic operation would mitigate the event. Therefore, no required function exists in the accident analyses for automatic actuation of the PORVs. Therefore, these changes are consistent with the current applicable safety analyses in the UFSAR and are acceptable.

The changes to the Bases not associated with a license amendment were evaluated in accordance with 10 CFR 50.59 and reviewed by the Plant Nuclear Safety Committee.

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

INSTRUCTIONS FOR REMOVAL AND INSERTION
OF PAGES INTO THE TECHNICAL SPECIFICATIONS BASES

Replace the following pages as instructed below. Margin lines indicate the revised areas.

Technical Specifications Bases Effective Pages

Remove

Page i.1
Page i.7
Page i.11
Page i.13

Insert

Page i.1 Rev. 18
Page i.7 Rev. 18
Page i.11 Rev. 18
Page i.13 Rev. 18

Technical Specifications Bases

Remove

Page B 3.4-39
Page B 3.4-54
Page B 3.4-55
Page B 3.4-56
Page B 3.4-57
Page B 3.4-58
Page B 3.4-59
Page B 3.9-7a
Page B 3.9-19

Insert

Page B 3.4-39 Rev. 18
Page B 3.4-54 Rev. 18
Page B 3.4-55 Rev. 18
Page B 3.4-56 Rev. 18
Page B 3.4-57 Rev. 18
Page B 3.4-58 Rev. 18
Page B 3.4-59 Rev. 18
Page B 3.9-7a Rev. 18
Page B 3.9-19 Rev. 18

TECHNICAL SPECIFICATIONS BASES EFFECTIVE PAGES

<u>Page</u>	<u>Rev.</u>
i	0
i.1	18
i.2	7 E1
i.3	16
i.4	16
i.5	16
i.6	16
i.7	18
i.8	17
i.9	16
i.10	16
i.11	18
i.12	16
i.13	18
ii	0
iii	0
iv	0
B 2.0-1	0
B 2.0-2	0
B 2.0-3	3
B 2.0-4	3
B 2.0-5	3
B 2.0-6	0
B 2.0-7	0
B 2.0-8	0
B 2.0-9	0
B 3.0-1	0
B 3.0-2	0
B 3.0-3	0
B 3.0-4	0
B 3.0-5	0
B 3.0-6	0
B 3.0-7	0
B 3.0-8	0
B 3.0-9	0
B 3.0-10	0
B 3.0-11	0
B 3.0-12	0
B 3.0-13	0
B 3.0-14	0
B 3.0-15	0
B 3.1-1	0
B 3.1-2	0
B 3.1-3	0
B 3.1-4	0
B 3.1-5	0
B 3.1-6	0
B 3.1-7	0
B 3.1-8	0
B 3.1-9	0

TECHNICAL SPECIFICATIONS BASES EFFECTIVE PAGES

<u>Page</u>	<u>Rev.</u>
B 3.4-29	16
B 3.4-30	0
B 3.4-31	16
B 3.4-32	16
B 3.4-33	16
B 3.4-34	16
B 3.4-35	0
B 3.4-36	0
B 3.4-37	16
B 3.4-38	16
B 3.4-39	18
B 3.4-39a	16
B 3.4-40	0
B 3.4-41	16
B 3.4-42	16
B 3.4-43	16
B 3.4-44	0
B 3.4-45	0
B 3.4-46	0
B 3.4-47	0
B 3.4-48	0
B 3.4-49	16
B 3.4-50	0
B 3.4-51	0
B 3.4-52	0
B 3.4-53	0
B 3.4-54	18
B 3.4-55	18
B 3.4-56	18
B 3.4-57	18
B 3.4-58	18
B 3.4-59	0
B 3.4-60	0
B 3.4-61	0
B 3.4-62	0
B 3.4-63	0
B 3.4-64	0
B 3.4-65	0
B 3.4-66	0
B 3.4-67	0
B 3.4-68	0
B 3.4-69	0
B 3.4-70	0
B 3.4-71	0
B 3.4-72	0
B 3.4-73	0
B 3.4-74	0
B 3.4-75	0
B 3.4-76	0
B 3.4-77	0
B 3.4-78	0

TECHNICAL SPECIFICATIONS BASES EFFECTIVE PAGES

<u>Page</u>	<u>Rev.</u>
B 3.7-38	0
B 3.7-39	14
B 3.7-40	0
B 3.7-41	0
B 3.7-42	15
B 3.7-43	0
B 3.7-44	0
B 3.7-45	0
B 3.7-46	0
B 3.7-47	0
B 3.7-48	0
B 3.7-49	15
B 3.7-50	15
B 3.7-51	15
B 3.7-52	0
B 3.7-53	0
B 3.7-54	6
B 3.7-55	0
B 3.7-56	0
B 3.7-57	0
B 3.7-58	0
B 3.7-59	18
B 3.7-60	6
B 3.7-61	6
B 3.7-62	0
B 3.7-63	6
B 3.7-64	0
B 3.7-65	0
B 3.7-66	0
B 3.7-67	0
B 3.7-68	0
B 3.7-69	0
B 3.7-70	0
B 3.7-71	0
B 3.7-72	0
B 3.7-73	0
B 3.7-74	0
B 3.7-75	0
B 3.7-76	0
B 3.7-77	0
B 3.7-78	0
B 3.7-79	0
B 3.7-80	0
B 3.8-1	0
B 3.8-2	0
B 3.8-3	0
B 3.8-4	0
B 3.8-5	0
B 3.8-6	0
B 3.8-7	0
B 3.8-8	0

TECHNICAL SPECIFICATIONS BASES EFFECTIVE PAGES

<u>Page</u>	<u>Rev.</u>
B 3.8-60	0
B 3.8-61	0
B 3.8-62	0
B 3.8-63	16
B 3.8-64	16
B 3.8-65	0
B 3.8-66	0
B 3.8-67	0
B 3.8-68	0
B 3.8-69	0
B 3.8-70	0
B 3.8-71	0
B 3.8-72	0
B 3.8-73	0
B 3.8-74	0
B 3.8-75	0
B 3.8-76	0
B 3.8-77	0
B 3.8-78	0
B 3.8-79	6
B 3.8-80	16
B 3.8-81	16
B 3.9-1	0
B 3.9-2	0
B 3.9-3	16
B 3.9-4	16
B 3.9-5	5
B 3.9-6	16
B 3.9-7	16
B 3.9-7a	18
B 3.9-8	0
B 3.9-9	0
B 3.9-10	0
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B 3.9-13	0
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B 3.9-15	16
B 3.9-16	16
B 3.9-17	0
B 3.9-18	0
B 3.9-19	18
B 3.9-20	16
B 3.9-21	0
B 3.9-22	0
B 3.9-23	6
B 3.9-24	0
B 3.9-25	0
B 3.9-26	0
B 3.9-27	0

BASES

ACTIONS B.1 and B.2 (continued)

the RCS of coolant with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation. With coolant added without forced circulation, unmixed coolant could be introduced to the core, however, coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations. The immediate Completion Times reflect the importance of maintaining operation for heat removal.

SURVEILLANCE
REQUIREMENTS

SR 3.4.7.1

This SR requires verification every 12 hours that the required train is in operation. Verification includes flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RHR train performance.

SR 3.4.7.2

Verifying that at least one SG is OPERABLE by ensuring its secondary side narrow range water level is $\geq 16\%$ and the RCS is not vented ensures an alternate decay heat removal method in the event that the second RHR train is not OPERABLE. If both RHR trains are OPERABLE, this Surveillance is not needed. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to the loss of SG level or the RCS pressure boundary.

SR 3.4.7.3

Verification that a second RHR pump is OPERABLE ensures that an additional pump can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power available to the RHR pump. If secondary

(continued)

BASES

BACKGROUND (continued)

the PORVs minimize challenges to the pressurizer safety valves and also may be used for low temperature overpressure protection (LTOP). See LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System."

APPLICABLE SAFETY ANALYSES

The PORVs and their respective block valves are provided for plant operational flexibility and for limiting the number of challenges to the pressurizer safety valves. Operation of the PORVs is not explicitly considered to be a safety-related function for overpressure protection of the reactor coolant pressure boundary (RCPB) at normal operating temperature and pressure. Plant operators employ the PORVs to depressurize the RCS in response to certain plant transients if normal pressurizer spray is not available. Operation of the PORVs in MODES 1, 2, and 3 is not classified as a safety-related function (i.e., one on which the results and conclusions of the safety analysis are based and that invokes the highest level of quality and construction). Also, an inadvertent opening of a PORV or a safety valve has been analyzed in the UFSAR (Ref. 1) as an anticipated operational occurrence (AOO) with acceptable consequences. For these reasons, the PORVs are not classified as safety related components.

Generic Letter 90-06 (Ref. 2) provided the NRC's resolution of PORV and block valve reliability concerns (Generic Issue 70), and set forth certain requirements to enhance safety. The pressurizer PORVs have no safety function and are not assumed to function during any UFSAR design basis accident or transient analysis. However, inclusion of the pressurizer PORVs is consistent with the guidance provided in Generic Letter 90-06. Therefore, they are being retained in Technical Specifications.

LCO

The LCO requires the PORVs and their associated block valves to be OPERABLE for manual operation.

An OPERABLE PORV is required to be capable of manually opening and closing, and not experiencing excessive seat leakage. Automatic control functions are not required for OPERABILITY of the PORVs.

(continued)

BASES

LCO (continued)

An OPERABLE block valve may be either open and capable of being closed, or closed. Isolation of an OPERABLE PORV does not render that PORV or block valve inoperable provided the relief function of either the block valve or the PORV remains available with manual action.

Satisfying the LCO helps minimize challenges to fission product barriers.

APPLICABILITY

In MODES 1, 2, and 3, the PORV and its block valve are required to be OPERABLE to limit the potential for a small break LOCA through the flow path. The most likely cause for a PORV small break LOCA is a result of a pressure increase transient that causes the PORV to open. Imbalances in the energy output of the core and heat removal by the secondary system can cause the RCS pressure to increase to the PORV opening setpoint. The most rapid increases will occur at the higher operating power and pressure conditions of MODES 1 and 2. The PORVs are also an alternative measure for manual actuation to mitigate a steam generator tube rupture event.

Pressure increases are less prominent in MODE 3 because the core input energy is reduced, but the RCS pressure is high. Therefore, the LCO is applicable in MODES 1, 2, and 3. The LCO is not applicable in MODES 4, 5, and 6 with the reactor vessel head in place when both pressure and core energy are decreased and the pressure surges become much less significant. LCO 3.4.12 addresses the PORV requirements in these MODES.

ACTIONS

Note 1 has been added to clarify that all pressurizer PORVs are treated as separate entities, each with separate Completion Times (i.e., the Completion Time is on a component basis). The exception for LCO 3.0.4, Note 2, permits entry into MODES 1, 2, and 3 to perform cycling of

(continued)

BASES

ACTIONS (Continued)

the PORVs or block valves to verify their OPERABLE status. Testing is not performed in lower MODES.

A.1

PORVs may be inoperable and capable of being manually cycled (e.g., excessive seat leakage). In this condition, either the PORVs must be restored or the flow path isolated within 1 hour. The associated block valve is required to be closed, but power must be maintained to the associated block valve, since removal of power would render the block valve inoperable. This permits operation of the plant until the next refueling outage (MODE 6) so that maintenance can be performed on the PORVs to eliminate the problem condition.

Quick access to the PORV for pressure control can be made when power remains on the closed block valve. The Completion Time of 1 hour is based on plant operating experience that has shown that minor problems can be corrected or closure accomplished in this time period.

B.1, B.2, and B.3

If one PORV is inoperable and not capable of being manually cycled, it must be either restored, or isolated by closing the associated block valve and removing the power to the associated block valve. The Completion Times of 1 hour are reasonable, based on challenges to the PORVs during this time period, and provide the operator adequate time to correct the situation. If the inoperable valve cannot be restored to OPERABLE status, it must be isolated within the specified time. Because there is at least one PORV that remains OPERABLE, an additional 72 hours is provided to restore the inoperable PORV to OPERABLE status. If the PORV cannot be restored within this additional time, the plant must be brought to a MODE in which the LCO does not apply, as required by Condition D.

C.1 and C.2

If one block valve is inoperable, then it is necessary to either restore the block valve to OPERABLE status within the

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

Completion Time of 1 hour or place the associated PORV in manual control. The prime importance for the capability to close the block valve is to isolate a stuck open PORV. Therefore, if the block valve cannot be restored to OPERABLE status within 1 hour, the Required Action is to place the PORV in manual control to preclude its automatic opening for an overpressure event and to avoid the potential for a stuck open PORV at a time that the block valve is inoperable. The Completion Time of 1 hour is reasonable, based on the small potential for challenges to the system during this time period, and provides the operator time to correct the situation. Because at least one PORV remains OPERABLE, the operator is permitted a Completion Time of 72 hours to restore the inoperable block valve to OPERABLE status. The time allowed to restore the block valve is based upon the Completion Time for restoring an inoperable PORV in Condition B, since the PORVs may not be capable of mitigating an event if the inoperable block valve is not full open. If the block valve is restored within the Completion Time of 72 hours, the power will be restored to the PORV. If it cannot be restored within this additional time, the plant must be brought to a MODE in which the LCO does not apply, as required by Condition D.

D.1 and D.2

If the Required Action of Condition A, B, or C is not met, then the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. In MODES 4 and 5, PORV OPERABILITY, including the ability to automatically operate, may be required. See LCO 3.4.12.

E.1, E.2, E.3, and E.4

If both PORVs are inoperable and not capable of being manually cycled, it is necessary to either restore at least one valve within the Completion Time of 1 hour or isolate the flow path by closing and removing the power to the

(continued)

BASES

ACTIONS

F.1, F.2, F.3, and F.4 (continued)

associated block valves. The Completion Time of 1 hour is reasonable, based on the small potential for challenges to the system during this time and provides the operator time to correct the situation. If no PORVs are restored within the Completion Time, then the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. In MODES 4 and 5, PORV OPERABILITY, including the ability to automatically operate, may be required. See LCO 3.4.12.

F.1, F.2, and F.3

If both block valves are inoperable, it is necessary to either restore the block valves within the Completion Time of 1 hour, or place the associated PORVs in manual control and restore at least one block valve within 2 hours and restore the remaining block valve within 72 hours. The Completion Times are reasonable, based on the small potential for challenges to the system during this time and provide the operator time to correct the situation.

G.1 and G.2

If the Required Actions of Condition F are not met, then the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. In MODES 4 and 5, PORV OPERABILITY, including the ability to automatically operate, may be required. See LCO 3.4.12.

(continued)

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Emergency Air Temperature Control (CREATC)

BASES

BACKGROUND

The CREATC Water Cooled Condensing Units (WCCUs) are a subsystem of the Control Room Air Conditioning System and consist of the necessary redundant refrigeration equipment to maintain the control room temperature to $\leq 85^{\circ}\text{F}$ during normal operation and design basis accident conditions. The necessary instrumentation is also considered a part of the system. The system is arranged into two redundant trains that share only the Service Water System (SWS) supply to both trains.

The WCCUs are an emergency system, which also operate during normal unit operations. A single train will provide the required temperature control to maintain the control room $\leq 85^{\circ}\text{F}$. The WCCU operation in maintaining the control room temperature is discussed in the UFSAR, Section 6.4 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the CREATC WCCUs is to maintain the control room temperature for continuous occupancy.

The active WCCU components are arranged in redundant, safety related trains. During emergency operation, the operating WCCU maintains the temperature $\leq 85^{\circ}\text{F}$. A single active failure of a component of the system, with a loss of offsite power, does not impair the ability of the system to perform its design function. Redundant detectors and controls are provided for control room temperature control. The WCCUs are designed in accordance with Seismic Category I requirements. The WCCUs are capable of removing sensible and latent heat loads from the control room, which include consideration of equipment heat loads and personnel occupancy requirements, to ensure equipment OPERABILITY.

The WCCUs satisfy Criterion 3 of the NRC Policy Statement.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.9.2.1

SR 3.9.2.1 is the performance of a CHANNEL CHECK, which is a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that the two indication channels should be consistent with core conditions. Changes in fuel loading and core geometry can result in significant differences between source range channels, but each channel should be consistent with its local conditions.

The Frequency of 12 hours is consistent with the CHANNEL CHECK Frequency specified similarly for the same instruments in LCO 3.3.1.

SR 3.9.2.2

SR 3.9.2.2 is the performance of a CHANNEL CALIBRATION every 18 months. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The CHANNEL CALIBRATION for the source range neutron flux monitors consists of obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. The CHANNEL CALIBRATION for the PAM source range neutron flux monitors only applies to the portion of the channel applicable to providing visual indication of neutron count rate in the Control Room. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency.

REFERENCES

1. UFSAR, Section 3.1.
 2. UFSAR, Section 15.4.6.
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BASES

ACTIONS

A.1 and A.2 (Continued)

Completion Time is necessary for an operator to initiate corrective actions.

B.1

If no RHR train is in operation, there will be no forced circulation to provide mixing to establish uniform boron concentrations. Suspending positive reactivity additions that could result in failure to meet the minimum boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation.

B.2

If no RHR train is in operation, actions shall be initiated immediately, and continued, to restore one RHR train to operation. Since the unit is in Conditions A and B concurrently, the restoration of two OPERABLE RHR trains and one operating RHR train should be accomplished expeditiously.

B.3

If no RHR train is in operation, all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere must be closed within 4 hours. With the RHR train requirements not met, the potential exists for the coolant to boil and release radioactive gas to the containment atmosphere. Closing containment penetrations that are open to the outside atmosphere ensures that dose limits are not exceeded.

The Completion Time of 4 hours is reasonable, based on operating experience to close all penetrations.

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