ENCLOSURE TO ATTACHMENT

SAFETY EVALUATION REPORT
PUMP AND VALVE INSERVICE TESTING PROGRAM
COMANCHE PEAK STEAM ELECTRIC STATION, UNIT 1

ACKNOWLEDGEMENT

This safety evaluation report was prepared with substantial assistance from the Idaho National Engineering Laboratory (EG&G Idaho, Inc.) under contract to the U.S. Nuclear Regulatory Commission.

CONTENTS

SAFETY EVALUATION REPORT
PUMP AND VALVE INSERVICE TESTING PROGRAM
COMANCHE PEAK STEAM ELECTRIC STATION, UNIT 1

1. INTRODUCTION

Contained herein is a safety evaluation of the pump and valve inservice testing (IST) program submitted by Texas Utilities Services Inc. (the applicant) for the Comanche Peak Steam Electric Station, Unit 1.

The working session with Comanche Peak, Unit 1, representatives was conducted on July 12 and 13, 1983. The applicant's resubmittal, dated October 12, 1983, was evaluated for compliance of proposed tests with the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition through the Winter of 1981 Addenda. In their resubmittal, Texas Utilities Services Inc. has requested relief from the ASME Code testing requirements for specific pumps and valves and these requests have been evaluated individually to determine whether the requests have significant risk implications and whether the tests, as required, are impractical.

The evaluations in this SER of the Comanche Peak Steam Electric Station, Unit 1, pump and valve inservice testing program and the associated relief requests are those of the NRC staff. The evaluations contained herein address Unit 1 only.

A summary of pump and valve Section XI testing requirements is provided in Appendix A.

Category A, B, and C valves that meet the requirements of the ASME Code, Section XI, and are not exercised quarterly are addressed in Appendix B.

Valves that perform a containment isolation function but are either not included in the IST program or not leak tested in accordance with 10 CFR 50, Appendix J, requirements are listed in Appendix C.

A listing of P&IDs used for this review is contained in Appendix D.

Appendix E contains the following:

a. Notes concerning valves that are never full stroke exercised or have an interval between tests longer than each refueling outage.
b. Notes concerning relief requests that contain insignificant technical information and thus where relief is not granted.
c. Notes concerning valves not included in the IST program.
d. General comments.

The Code of Federal Regulations paragraph 50.55a (g)(5)(ii) states:

> If a revised inservice inspection program for a facility conflicts with the technical specification for the facility, the licensee shall apply to the Commission for amendment of the technical specifications to conform the technical specification to the revised program. This application shall be submitted at least 6 months before the start of the period during which the provisions become applicable as determined by paragraph (g)(4) of this section.

The IST program and the technical specifications should not be in conflict. If a conflict is identified by the applicant; both the technical specifications and the IST program must be complied with until relief is granted by the NRC.

Any program revisions subsequent to those noted herein are not approved. Required program changes, such as additional relief requests or the deletion of any components from the IST program, should be submitted to the NRC in order to receive prompt attention; but must not be implemented prior to review and approval by the NRC.

2. PUMP TESTING PROGRAM

The Comanche Peak Steam Electric Station, Unit 1, IST program submitted by Texas Utilities Services Inc. was examined to verify that Class 1, 2, and 3 pumps and pumps that perform a safety related function were included in the

IST program and that these pumps are subjected to the periodic tests required by the ASME Code, Section XI. Our review found that, except as noted in Attachment 4 or where specific relief from testing has been requested, these pumps are included in the program and tested to the Code requirements summarized in Appendix A. Each Texas Utilities Services Inc basis for requesting relief from the pump testing requirements and the EG&G Idaho, Inc., evaluation of that request is summarized below.

2.1 Service Water System

2.1.1 Relief Request P-1. The applicant has requested specific relief from the pump inlet pressure measurement requirements of Section XI for the service water pumps and has proposed to calculate inlet pressure based on the water level above the pump inlet.

2.1.1.1 Code Requirements. Refer to Appendix A.

2.1.1.2 Applicant's Basis for Requesting Relief. The service water pumps (CP1-SWAPSW-01 and -02) are vertical turbine design with no direct means to obtain the inlet pressure measurement as required. As an alternate, the inlet pressure will be calculated based on the water level above the pump inlet.

2.1.1.3 Evaluation. Relief should be granted from the requirements of Section XI to measure inlet pressure for the service water pumps. These pumps are submerged in the intake structure and pump suction pressure instrumentation cannot be installed.

2.1.1.4 Conclusion. Service water pump suction pressure instrumentation cannot be installed and the alternate test proposed of measuring the water level above the pump suction will provide sufficient information for evaluation of the pumps' hydraulic condition. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

2.1.2 Relief Request P-2. The applicant has requested specific relief from the requirements of Section XI for measurement of pump bearing temperature and observation of proper lubricant level or pressure for the service water pumps.

2.1.2.1 Code Requirements. Refer to Appendix A.

2.1.2.2 Applicant's Basis for Requesting Relief. The bearings for these pumps are internal and water cooled, therefore bearing temperature measurements are not possible and lube oil level or pressure observation is not applicable.

2.1.2.3 Evaluation. Relief should be granted from the requirements of Section XI for measurement of pump bearing temperature and observation of proper lubricant level or pressure for the service water pumps. The applicant has demonstrated that due to pump design and location under water in the intake structure these measurements and observation requirements cannot be accomplished.

2.1.2.4 Conclusion. Due to pump design and location these parameters cannot be measured or observed; however, the parameters, that are measured during the inservice testing for these pumps should give sufficient information for evaluating the condition of these service water pumps. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

2.2 Residual Heat Removal System

2.2.1 Relief Request P-3.

The applicant has requested specific relief from the requirements of Section XI to measure bearing temperature and observe lubricant level or pressure for the residual heat removal pumps.

2.2.1.1 Code Requirements. Refer to Appendix A.

2.2.1.2 Applicant's Basis for Requesting Relief. The residual heat removal pumps have no bearings or bearing lubrication system, therefore these requirements are not applicable.

2.2.1.3 Evaluation. Relief should be granted from the requirements of Section XI to measure pump bearing temperature and observe lubricant level or pressure for the residual heat removal pumps. These pumps are vertical in design with no pump bearings installed, therefore monitoring of these parameters is meaningless.

2.2.1.4 Conclusion. Due to the pump design which utilizes no bearings, monitoring bearing temperature and lubricant level in accordance with Section XI is meaningless. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

2.3 Chemical and Volume Control System

2.3.1 Relief Request P-4. The applicant has requested specific relief from requirements of Section XI to measure bearing temperatures and observe lubricant level or pressure for the boric acid transfer pumps.

2.3.1.1 Code Requirements. Refer to Appendix A.

2.3.1.2 Applicant's Basis for Requesting Relief. The boric acid transfer pumps are close coupled, hermetically sealed pump and motor units. The bearings are factory lubricated and require no inservice lubrication. The bearing temperature measurement is not possible.

2.3.1.3 Evaluation. Relief should be granted from the requirements of Section XI for measurement of bearing temperature and observation of lubricant level or pressure. The applicant has demonstrated that monitoring these parameters cannot be accomplished since the pump/motor assembly is a hermetically sealed unit.

2.3.1.4 Conclusion. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

2.4 Safety Chilled Water System

2.4.1 Relief Request P-5. The applicant has requested specific relief from the requirements of Section XI for measurement of bearing temperature for the chilled water recirculation pumps.

2.4.1.1 Code Requirements. Refer to Appendix A.

2.4.1.2 Applicant's Basis for Requesting Relief. The chilled water pump bearings are housed in an oil reservoir with no method for access to take bearing temperature measurements. Measurement of oil reservoir temperature would not be indicative of bearing temperature.

2.4.1.3 Evaluation. Relief should be granted from the requirements of Section XI for measurement of bearing temperatures for the chilled water recirculation pumps. The applicant has demonstrated that due to pump design with the pump bearings physically located in an oil reservoir, monitoring the reservoir temperature would not be indicative of actual bearing temperature.

2.4.1.4 Conclusion. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

2.5 Diesel Fuel Oil Transfer System

2.5.1 Relief Request. The applicant has requested specific relief from the requirements of Section XI for measurement of inlet pressure, differential pressure and lubricant level or pressure for the diesel fuel oil transfer pumps.

2.5.1.1 Code Requirements. Refer to Appendix A.

2.5.1.2 Applicant's Basis for Requesting Relief. The fuel oil transfer pump is a positive displacement pump which takes suction directly from the fuel oil storage tank and discharges to the fuel oil day tank. No inlet pressure indication is available and no direct reading differential pressure indication is available. Pump discharge pressure is available and will be recorded. The pump has no separate lube oil system, therefore lube oil pressure and level is not applicable.

2.5.1.3 Evaluation. Relief should be granted from the requirements of Section XI for measurement of inlet pressure, differential pressure, and lubricant level or pressure. The applicant has demonstrated that due to pump design and system configuration measurement of pump inlet and ifferential pressure would be meaningless for these positive displacement pumps. Additionally, the pump is lubricated by the pumped oil flowing through the pump therefore lubricant level or pressure is not applicable to this design.

2.5.1.4 Conclusion. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

3 VALVE TESTING PROGRAM

The Comanche Peak Steam Electric Station, Unit 1, IST program submitted by Texas Utilities Services Inc. was examined to verify that Class 1, 2, and 3 valves and valves that perform a safety related function were included in the IST program and that such valves are subjected to the periodic tests required by the ASME Code, Section XI, as well as the NRC positions and guidelines. Except as noted in Appendix C or Appendix E or where specific relief from testing has been requested, these valves are tested to the Code requirements and the NRC positions and guidelines summarized in Appendix A and Section 3.1 of this report. Each Texas Utilities Services Inc. basis for requesting relief from the valve testing requirements and the NRC evaluation of that request is summarized below and grouped according to system and valve category.

3.1 General Considerations

3.1.1 Exercising of Check Valves

The NRC's position was stated to the applicant that check valves whose safety function is to open are expected to be full-stroke exercised. Since the disc position is not always observable, the NRC staff position is that verification of the maximum flow rate through the check valve identified in any of the plant's safety analyses would be an adequate demonstration of the full-stroke requirements. Any flow rate less than this will be considered partial-stroke exercising unless it can be shown that the check valve's disc position at the lower flow rate would permit maximum required flow through the valve. It is the NRC staff's position that this reduced flow rate method of demonstrating full-stroke capability is the only test that requires measurement of the differential pressure across the valve.

3.1.2 Valves Identified for Cold Shutdown Exercising

The Code permits valves to be exercised during cold shutdowns where it is not practical to exercise them quarterly during plant operation . The applicant has specifically identified the applicable valves and these valves are full-stroke exercised during cold shutdowns; therefore, the applicant is meeting the requirements of the ASME Code. Since the applicant is meeting the requirements of the Code, it is not necessary to grant relief; however, it was verified that it is not practical to exercise these valves during power operation and therefore that the applicant's cold shutdown testing justifications are acceptable.

The NRC differentiates, for valve testing purposes, between the cold shutdown mode and the refueling mode. That is, for valves identified for testing during cold shutdowns, it is expected that the tests will be performed both during cold shutdowns and each refueling outage. However, when relief is granted to perform tests on a refueling outage frequency, testing is expected only during each refueling outage. In addition, for extended refueling outages, tests being performed are expected to be maintained as closely as practical to the Code-specified frequencies.

3.1.3 Conditions for Valve Testing During Cold Shutdowns

Cold shutdown testing of valves identified by the licensee is acceptable when the following conditions are met:

Valve testing must commence as soon as possible, but no later than 48 hours, after reaching cold shutdown conditions. Valve testing should proceed in a normal manner until all testing is complete or the plant is ready to return to power. A completion of all valve testing is not a prerequisite to return to power. Any testing not completed by the end of the one cold shutdown will be performed during subsequent cold shutdowns, starting from the last test performed at the previous cold shutdown.

For planned cold shutdowns, where ample time is available for testing all the valves identified for the cold shutdown test frequency in the IST program, exceptions to the 48 hours may be taken.

3.1.4 Category A Valve Leak Test Requirements for Containment Isolation Valves (CIVs)

All containment isolation valves are safety related valves and therefore, must be included in the IST program. All containment isolation valves that are Appendix J, Type C, leak tested must be included in the IST program as Category A or A/C valves. The NRC has concluded that the applicable leak test procedures and requirements for containment isolation valves are determined by 10 CFR 50, Appendix J. Relief from Paragraphs IWV-3421 through -3425 for containment isolation valves presents no safety problem since the intent of IWV-3421 through -3425 is met by Appendix J requirements, however, the applicant must comply with Paragraphs IWV-3426 and -3427 unless specific relief is requested from these paragraphs and subsequently granted. Based on the considerations discussed above, this alternate testing will give reasonable assurance of valve leak-tight integrity intended by the Code and that such testing will not endanger life or property or the common defense and security of the public.

3.1.5 Application of Appendix J Testing to the IST Program

The Appendix J review for this plant is separate from the IST program review. However, the determinations made by that review affect the IST program. The applicant has agreed that, should the Appendix J program be amended, they will amend their IST program accordingly.

3.1.6 Valves Whose Function is Safety Related

This review was limited to valves that perform a safety related function. Safety related valves are defined as those valves that are needed to mitigate the consequences of an accident and/or to shutdown the reactor and to maintain the reactor in a shutdown condition. Valves in this category would typically include certain ASME Code Class 1, 2, and 3 valves and could include some non-Code class valves. The applicant may have included valves whose functions are not safety related in the IST program as a decision on their part to expand the scope of their program.

3.1.7 Valves Which Perform a Pressure Boundary Isolation Function

Several safety related systems connected to the reactor coolant pressure boundary have design pressures below the reactor coolant system operating pressure. Redundant isolation valves within the Class 1 boundary forming the interface between these high and low pressure systems protect the low pressure systems from pressures which exceed their design limit. In this role, the valves perform a pressure isolation function. The redundant isolation provided by these valves is safety related. It is necessary to assure that the condition of each of these valves is adequate to maintain this redundant isolation and system integrity.

The following is a list of valves that perform a pressure isolation function.

	Residual Heat Removal System	Valve Category
8701A	RCS loop 1 to RHR isolation	A
8701B	RCS loop 4 to RHR isolation	A
8702A	RCS loop 1 to RHR isolation	A
8702B	RCS loop 4 to RHR isolation	A
8841A	RHR to RCS loop 2 hot leg check	A/C
8841B	RHR to RCS loop 3 hot leg check	A/C
RH-8705A	RHR suction isolation relief valve	A/C
RH-8705B	RHR suction isolation relief valve	A/C

	Safety Injection System	Valve Category
8818A	RHR to cold leg-1 check	A/C
8818B	RHR to cold leg-2 check	A/C
8818C	RHR to cold leg-3 check	A/C
8818D	RHR to cold leg-4 check	A/C
8819A	SI to cold leg-1 check	A/C
8819B	SI to cold leg-2 check	A/C
8819C	SI to cold leg-3 check	A/C
8819D	SI to cold leg-4 check	A/C
8948A	loop-1 cold leg injection check	A/C
8948B	loop-2 cold leg injection check	A/C
8948C	loop-3 cold leg injection check	A/C
8948D	loop-4 cold leg injection check	A/C
8956A	SI accumulator-1 discharge check	A/C
8956B	SI accumulator-2 discharge check	A/C
8956C	SI accumulator-3 discharge check	A/C
8956D	SI accumulator-4 discharge check	A/C

8905A	SI to hot leg-1 check	A/C
8905B	SI to hot leg-2 check	A/C
8905C	SI to hot leg-3 check	A/C
8905D	SI to hot leg-4 check	A/C
8949A	SI to hot leg-1 check	A/C
8949B	SI to hot leg-2 check	A/C
8949C	SI to hot leg-3 check	A/C
8949D	SI to hot leg-4 check	A/C

Limiting Conditions for Operation (LCO) must be included in the Technical Specifications which will require corrective action; i.e., shutdown or system isolation when the final apporved leakage limits are not met. Also, surveillance requirements which will state the acceptable leak rate testing frequency shall be provided in the Technical Specifications.

The pressure isolation valves (PIV's) noted above must be listed in the Technical Specifications.

Pressure isolation valves are required to be Category A or AC per IWV-2000 and to meet the appropriate requirements of IWV-3420 of Section XI of the ASME Code except as discussed below.

Periodic leakage testing on each PIV shall be accomplished each time the plant is placed in the cold shutdown condition for refueling, each time the plant is placed in the cold shutdown condition for 72 hours if testing has not been accomplished in the preceding 9 months, each time any check valve may have moved from the fully closed position (i.e., any time the differential pressure across the valve is less than 100 psig), and prior to returning the valve to service after maintenance, repair, or replacement work is performed.

If <u>all</u> of the following conditions exist, PIV's which meet the following criteria may be leak rate tested at an interval no greater than every 18 months:

(1) full closure of the PIV is verified in the control room by direct monitoring position indicators, (2) inadvertent opening of the PIV is

prevented by interlocks which require the primary system pressure to be below subsystem design pressure prior to opening, and (3) gross intersystem leakages into the low-pressure coolant injection, and safety injection return and suction lines would be detected by high-pressure alarms.

The staffs present position is that leak rate limiting conditions for operation on each valve shall be no greater than one-half gallon per minute (gpm) for each nominal inch of valve size but no greater than 5 gpm for any particular valve. The requirements of paragraph IWV-3427 of Section XI of the ASME code are to be strictly observed.

3.1.8 Pressurizer Power Operated Relief Valves

The NRC has adopted the position that the pressurizer power operated relief valves should be included in the IST program as Category B valves and tested to the requirements of Section XI. However, since the PORVs have shown a high probability of sticking open and are not needed for overpressure protection during power operation, the NRC has concluded that routine exercising during power operation is "not practical" and, therefore, not required by IWV-3412(a).

The PORV's function during reactor startup and shutdown is to protect the reactor vessel and coolant system from low-temperature overpressurization conditions. Therefore, the PORV's should be exercised prior to initiation of system conditions for which vessel protection is needed.

The following test schedule is recommended:

1. Full-stroke exercising should be performed at each cold shutdown or, as a minimum, once each refueling cycle.

2. Stroke timing should be performed at each cold shutdown or, as a minimum, once each refueling cycle.

3. Fail-safe actuation testing is permitted by the Code to be performed at each cold shutdown if the valves cannot be tested during power operation. This testing should be performed at each cold shutdown.

4. The PORV block valves should be included in the IST program to provide protection against a small break LOCA should a PORV fail open.

3.2 General Relief Requests

3.2.1 Cold Shutdown Testing of Valves

3.2.1.1 Applicant's Statement. The applicant has indicated on page ii of the IST program (item 4) that the IST program will not comply with the NRC staff position which requires commencing testing of valves identified for cold shutdown testing within 48 hours after achieving the cold shutdown condition.

3.2.1.1.1 Code Requirements--Refer to Section 3.1.3 of this report.

3.2.1.1.2 Applicant's Justification--For valves required to be tested during cold shutdowns, testing will commence only if the shutdown period is scheduled to exceed 72 hours. The actual testing will begin within 48 hours after reaching the cold shutdown condition. Completion of scheduled testing shall not delay a return to power operations. Valves not tested during a cold shutdown will be the first valves tested at the next cold shutdown.

3.2.1.1.3 Evaluation--The licensee has requested a deviation from the NRC staff position on the cold shutdown testing requirements, as identified in Section 3.1.3 of this report; however, no basis was provided for this deviation. Therefore, relief should not be granted.

3.2.1.1.4 Conclusion--Relief will not be granted from the NRC staff position on the cold shutdown testing requirements for valves as described above.

3.2.2 Increased Testing Frequencies

3.2.2.1 Applicant's Statement. The applicant indicated on page v. of the IST program (item 3) that the increased testing frequency requirements of IWV-3417 for valves identified for exercising at cold shutdowns or refueling outages will not be observed.

3.2.2.1.1 Code Requirements--IWV-3417 Corrective Action.

(a) If, for power operated valves, an increase in stroke time of 25% or more from the previous test for valves with full-stroke times greater than 10 sec or 50% or more for valves with full-stroke times less than or equal to 10 sec is observed, test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. In any case, any abnormality or erratic action shall be reported.

(b) If a valve fails to exhibit the required change of valve stem or disk position or exceeds its specified limiting value of full-stroke time by this testing, then corrective action shall be initiated immediately. If the condition is not, or cannot be, corrected within 24 hr, the valve shall be declared inoperative. When corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.

3.2.2.1.2 Applicant's Justifcation--Valves which are normally tested only in cold shutdown or refueling outages will not be tested more frequently as required by IWV 3417 for failure to meet stroke time limits. The basis for this deviation from the Code is the same as the justification for not testing the valves quarterly. These specific justifications are listed in the notes or relief requests for each of the affected valves.

3.2.2.1.3 Evaluation--Relief should be granted from the increased test frequency requirements of Section XI, IWV-3417, for valves identified in the applicants IST program for cold shutdown or refueling outage exercising as approved by NRC. The applicant has demonstrated that these valves cannot be exercised quarterly during power operation, therefore, an increase to monthly exercising also cannot be accomplished.

3.2.2.1.4 Conclusion--Valves identified by the applicant and agreed to by the NRC for cold shutdown or refueling outage exercising need not meet the

requirements of IWV-3417 for an increase in test frequency. Based on the considerations discussed above, we conclude that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.2.3 Rapid Acting Valves

3.2.3.1 Applicant's Statement. The applicant indicated on page vi. of the IST program that the stroke timing requirements of Section XI for rapid acting valves will not be observed and has proposed a maximum stroke time limit of 5 seconds for these valves.

3.2 3.1.1 Code Requirements--The stroke time of all power operated valves shall be measured to the nearest second, for stroke times 10 sec or less, or 10% of the specified limiting stroke time for full-stroke times longer than 10 sec whenever such a valve is full-stroke tested.

3.2.3.1.2 Applicant's Justification. Valves which have very short stroke times and are therefore difficult to trend, will be identified as "Rapid Acting Valves" on the list and no corrective action nor increase in test frequency will be applied unless the specified limit is exceeded. In no case shall the specified limit for these valves exceed 5 seconds.

3.2.3.1.3 Evaluation--The licensee's basis regarding testing of "rapid acting valves" is acceptable, however, the NRC's identified stroke time limit for these valves is two seconds rather than five seconds. Therefore, if the licensee re-evaluates the identified rapid acting valves and assigns a limit of two seconds to the valves that qualify, relief should be granted from the stroke timing requirements of Section XI.

3.2.3.1.4 Conclusion--The alternate testing proposed for rapid acting valves should demonstrate proper valve operability if the limiting stroke time for these valves is identified as no greater than two seconds rather than five seconds. Based on the considerations discussed above, the relief thus granted will not endanger life or property or the common defense and security of the public.

3.2.4 Containment Isolation Valves

3.2.4.1 Relief Request V-1. The applicant has requested specific relief from the requirements of ASME Code paragraphs IWV-3426 regarding analysis of leakage rates and IWV-3427 regarding corrective action for containment isolation valves.

3.2.4.1.1 Applicant's Basis For Requesting Relief. Valves tested in accordance with Appendix J (identified as LTJ tested) are adequately governed by 10CFR50 for quantifying leakages that in an accident would minimize the potential of severe radiological releases from the containment. Adequate corrective actions and controls for reducing excessive leakages are therefore implemented by 10CFR50 Appendix J. As an alternative testing and corrective actions are to be in accordance with Appendix J of 10CFR50.

3.2.4.1.2 Code Requirements. IWV 3420 (VALVE LEAK RATE TEST) includes subparagraphs IWV 3421 through 3427. As noted in paragraph 3.1.4 of this SER, valves which are to be Appendix J (10CFR50), Type C leak rate tested are exempted from the requirements of IWV 3421 through IWV 3425. However, the requirements of IWV 3426 and 3427 must be complied with.

3.2.4.1.3 Evaluation. The applicant's basis, as stated above, would provide no means for determining individual valve leak rates. The staff has specifically included the requirement to adhere to IWV-3426 and IWV-3427 in order to maintain control over individual valve leak rates. This is necessary in order to provide assurance of individual valve integrity as required by the code and there is no valid reason for the staff to provide general relief from the requirements.

3.2.4.1.4 Conclusion. The applicant is to comply with paragraphs IWV-3426 and IWV-3427. Specific relief requests, supported by valid reasons for non-compliance for individual valves may be submitted and will be reviewed by the staff where these requirements cannot be met.

3.3 Component Cooling Water System

3.3.1 Category A/C Valves

3.3.1.1 Relief Request 5.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1CC-713, component cooling water supply to reactor coolant pumps check valve, and has proposed to verify valve closure during leak-rate testing at refueling outages.

3.3.1.1.1 Code Requirements--Refer to Appendix A.

3.3.1.1.2 Applicant's Basis for Requesting Relief--Stroking this valve during power operation would interrupt cooling water flow to the reactor coolant pumps. Additionally, no method exists during cold shutdown to verify closing of the valve. As an alternate, this valve will be exercised at refueling outages during leak-rate testing.

3.3.1.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1CC-713. The applicant has shown that the only available means of verifying valve closure, its safety position, is by leak-rate testing and the Appendix J leak-rate test is performed during refueling outages.

3.3.1.1.4 Conclusion--Verification of valve closure by leak-rate testing during refueling outages should demonstrate proper valve operability. Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.3.1.2 Relief Request 5.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1CC-629 and 1CC-831, component cooling from reactor coolant pumps isolation valve overpressure protection check valves, and has proposed to verify valve closure during leak-rate testing at refueling outages.

3.3.1.2.1 Code Requirements--Refer to Appendix A.

3.3.1.2.2 Applicant's Basis for Requesting Relief--During power operation or cold shutdown, no method exists to verify valve operation. These valves will be exercised at refueling outages during leak-rate testing.

3.3.1.2.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1CC-629 and 1CC-831. The applicant has shown that the only available means of verifying valve closure, their safety position, is by leak-rate testing and the Appendix J leak-rate tests are performed during refueling outages.

3.3.1.2.4 Conclusion--Verification of valve closure by leak-rate testing during refueling outages should demonstrate proper valve operability. Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.4 Reactor Coolant System

3.4.1 Category A/C Valves

3.4.1.1 Relief Request 6.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8046, pressurizer relief tank spray containment isolation check valve, and has proposed to verify valve closure during leak-rate testing at refueling outages.

3.4.1.1.1 Code Requirements--Refer to Appendix A.

3.4.1.1.2 Applicant's Basis for Requesting Relief--During power operation or cold shutdown, no method exists to verify valve operation. This valve will be exercised at refueling outages during leak-rate testing.

3.4.1.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8046. The applicant has shown that the only available means of verifying valve closure, its safety position, is by leak-rate testing and the Appendix J leak-rate tests are performed during refueling outages.

3.4.1.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.4.2 Category B Valves

3.4.2.1 Relief Request 6.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1-PCV-455A and 1-PCV-456, pressurizer power operated relief valves, and has proposed to exercise these valves in accordance with plant Technical Specifications every 18 months.

3.4.2.1.1 Code Requirements--Refer to Section 3.1.8 of this report.

3.4.2.1.2 Applicant's Basis for Requesting Relief--The applicant has not provided any basis for not meeting the exercising requirements of Section XI for these valves and has only stated that the valves will be tested in accordance with the minimum requirements of the plant's Technical Specifications which requires full-stroke exercising every 18 months.

3.4.2.1.3 Evaluation--Relief should not be granted from the exercising requirements of Section XI for valves 1PCV-455A and 1PCV-456. The applicant should exercise these valves in accordance with the NRC guidelines as identified in Section 3.1.8 of this report.

3.4.2.1.4 Conclusion--The requested relief is denied. The licensee must exercise these PORV's in accordance with the NRC guidelines as stated in Section 3.1.8 of this SER.

3.5 Compressed Air System

3.5.1 Category A and A/C Valves

3.5.1.1 Relief Request 10.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1-HV-3487, instrument air containment isolation valve, and has proposed to exercise this valve during refueling outages.

3.5.1.1.1 Code Requirements--Refer to Appendix A.

3.5.1.1.2 Applicant's Basis for Requesting Relief--Stroking this valve would interrupt instrument air to valves necessary for normal and cold shutdown

operation. Some of the valves affected are normal and auxiliary pressurizer spray, normal and excess letdown isolation, steam generator blowdown isolation and the pressurizer PORV's. This valve will be full-stroke exercised during refueling outages.

3.5.1.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for 1-HV-3487. The applicant has shown that failure of this valve in the closed position would cause a loss of control air to valves inside containment and could result in a reactor trip or loss of necessary system functions during cold shutdown.

3.5.1.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.5.1.2 Relief Request 10.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1-CI-030, instrument air inside containment isolation check valve, and has proposed to exercise this valve during leak-rate testing at refueling outages.

3.5.1.2.1 Code Requirements--Refer to Appendix A.

3.5.1.2.2 Applicant's Basis for Requesting Relief--During power operation or cold shutdown, no method exists to verify valve operation. This valve will be exercised at refueling outages during leak-rate testing.

3.5.1.2.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-CI-030. The licensee has shown that the only available means of verifying valve closure, its safety position, is by leak-rate testing and the Appendix J leak-rate tests are performed during refueling outages.

3.5.1.2.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.6 Containment Spray System

3.6.1 Category A/C Valves

3.6.1.1 Relief Request 13.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1CT-142 and 1CT-145, spray header containment isolation check valves, and has proposed to partial-stroke exercise these valves every 5 years.

3.6.1.1.1 Code Requirements--Refer to Appendix A.

3.6.1.1.2 Applicant's Basis for Requesting Relief--During power operation or cold shutdown, no positive means exists to verify valve operation. As an alternate, these valves will be partial-stroke exercised every 5 years with air concurrent with the nozzle air test.

3.6.1.1.3 Evaluation--Relief should not be granted from the exercising requirements of Section XI for valves 1CT-142 and 1CT-145. Exercising these valves with water flow cannot be accomplished without spraying containment resulting in damage to equipment inside containment; however, the applicant has the facilities available to partially disassemble these valves and visually inspect the internals to verify valve operability during each refueling outage.

3.6.1.1.4 Conclusion--Based on the considerations discussed above, relief should not be granted and the applicant should verify the operability of these valves by partial disassembly of one of the two valves at least each refueling outage on an alternating schedule. If any problem is discovered during disassembly, then the other valve must be disassembled and inspected before either can be declared operable. Relief thus granted will not endanger life or property or the common defense and security of the public.

3.6.2 Category C Valves

3.6.2.1 Relief Request 13.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1CT-148 and 1CT-149, spray pump suction check valves from containment recirculation sumps, and has proposed to never full- or partial-stroke exercise these check valves.

3.6.2.1.1 Code Requirements--Refer to Appendix A.

3.6.2.1.2 Applicant's Basis for Requesting Relief--During power operation or cold shutdown, no positive means exist to verify operation of these valves. No acceptable means of alternate testing is available.

3.6.2.1.3 Evaluation--Relief should not be granted from the exercising requirements of Section XI for valves 1CT-148 and 1CT-149. Exercising these valves with flow would introduce undesirable low quality water into the relatively clean containment spray system, RWST and ultimately into the RCS, however; the licensee has the facilities available to partially disassemble these valves and visually inspect the internal parts in order to verify valve operability during each refueling outage.

3.6.2.1.4 Conclusion--Based on the considerations discussed above, relief should not be granted. The licensee should verify the operability of these valves by partial disassembly of one of the two valves at least each refueling outage on an alternating schedule. If any problem is discovered during disassembly, then the other valve must be disassembled and inspected before either can be declared operable. Relief thus granted will not endanger life or property or the common defense and security of the public.

3.7 Safety Injection System

3.7.1 Category A and A/C Valves

3.7.1.1 Relief Request 15.10. The licensee has requested specific relief from the exercising requirements of Section XI for 1-8801 A and B, centrifugal charging pump to cold legs safety injection isolation valves, and has proposed to full-stroke exercise these valves during refueling outages.

3.7.1.1.1 Code Requirements--Refer to Appendix A.

3.7.1.1.2 Applicant's Basis for Requesting Relief--During power operation exercising these valves would defeat the normal charging path by diverting flow away from the regenerative heat exchanger causing a thermal shock to the SI

penetration. This test would also divert flow from the RCP seals. During cold shutdown this could result in overpressurization of the RCS by providing a low resistance flow path for charging system water, and will also divert flow from the heat exchanger and RCP seals.

3.7.1.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1-8801 A and B. The applicant has shown that opening these valves during power operation would result in diversion of normal charging to the safety injection flow path into the RCS causing unnecessary thermal stress on the injection nozzles which could result in premature failure of these nozzles. Additionally, exercising these valves during cold shutdown could result in a low-temperature overpressurization of the RCS.

3.7.1.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.1.2 Relief Request 15.12. The licensee has requested specific relief from the exercising requirements of Section XI for 1-8811 A and B, containment sump to RHR pump suction isolation valves, and has proposed to exercise these valves during refueling outages.

3.7.1.2.1 Code Requirements--Refer to Appendix A.

3.7.1.2.2 Applicant's Basis for Requesting Relief--Stroking of these valves during normal operation or cold shutdown could result in draining the RWST to the containment sump. As an alternate, these valves will be full-stroke exercised during refueling outages.

3.7.1.2.3 Evaluation--The applicant's basis for not exercising valves 1-8811 A and B quarterly during power operation is not acceptable. The applicant has the ability to isolate the RWST from these valves to accomplish quarterly exercising and stroke timing. Isolation of these valves individually from the RWST, by closing 1-8812 A or B (which are identified for quarterly exercising) would prevent draining the RWST into the containment sump. Relief should not be granted from the code requirement to full stroke exercise these valves quarterly.

3.7.1.2.4 Conclusion--Based on the considerations discussed above, relief will not be granted from the quarterly exercising requirements of Section XI for these valves.

3.7.1.3 Relief Request 15.4. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8956 A, B, C and D, SI accumulator to RCS check valves, and has proposed to never full- or partial-stroke exercise these check valves.

3.7.1.3.1 Code Requirements--Refer to Appendix A.

3.7.1.3.2 Applicant's Basis for Requesting Relief--During power operation, these valves will not stroke open against full RCS pressure. During cold shutdown exercising these valves open would result in a low-temperature overpressurization of the RCS. No method for partial- or full-stroking these valves is available.

3.7.1.3.3 Evaluation--The applicant has shown that partial- or full-stroke exercising valves 1-8956 A, B, C and D during power operation cannot be accomplished since RCS pressure is greater than accumulator pressure and, therefore, these check valves will not open. Additionally, during cold shutdown, exercising these valves could result in a low-temperature overpressurization of the RCS. However, the applicant has the facilities available to partially disassemble these valves and visually inspect the internals to verify valve operability during refueling outages.

3.7.1.3.4 Conclusion--Based on the considerations discussed above, relief will not be granted and the applicant must verify the operability of these valves by partial disassembly of one of the four valves at each refueling outage on an alternating schedule. If any problem is found by disassembly, then the other three valves must also be disassembled and inspected before any of the four can be declared operable. Relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.1.4 Relief Request 15.5. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8841 A and B, RHR to hot leg

injection check valves, and has proposed to full-stroke exercise these valves during each refueling outage.

3.7.1.4.1 Code Requirements--Refer to Appendix A.

3.7.1.4.2 Applicant's Basis for Requesting Relief--During power operation the RHR pumps cannot stroke these valves against full RCS pressure. During cold shutdown stroking these valves would cause RHR cooling water to bypass the core and thereby reduce the core RHR heat removal capability. These check valves are downstream of the recirculation line and, therefore, no method of partial stroking is available. As an alternate, these valves will be full-stroke exercised each refueling outage.

3.7.1.4.3 Evaluation --Relief should be granted from the exercising requirements of Section XI for valves 1-8841 A and B. The applicant has shown that exercising these valves during power operation cannot be accomplished since the RHR pumps do not develop sufficient head to discharge through these valves into the RCS. Also, during cold shutdown, exercising these check valves would require the RHR flow to bypass the reactor core.

3.7.1.4.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.1.5 Relief Request 15.6. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8818 A, B, C and D, RHR to cold leg injection check valves, and has proposed to full-stroke exercise these valves during refueling outages.

3.7.1.5.1 Code Requirements--Refer to Appendix A.

3.7.1.5.2 Applicant's Basis for Requesting Relief--During power operation these valves cannot stroke against full RCS pressure. During cold shutdown, stroking these valves would result in RCS overpressurization. Additionally, these valves are downstream of the recirculation line and, therefore, no method of partial

stroking is available. These valves will be full-stroke exercised each refueling outage.

3.7.1.5.3 Evaluation--The applicant's basis for not exercising valves 1-8818 A, B, C and D during power operation is acceptable. The RHR pumps cannot develop sufficient head to open these check valves against full RCS back pressure. However, the applicant has the ability to full-stroke exercise these valves during cold shutdowns utilizing the residual heat removal flow path. Therefore, relief should not be granted from the exercising requirements of Section XI for any interval between tests longer than each cold shutdown.

3.7.1.5.4 Conclusion--Based on the considerations discussed above, relief will not be granted from the exercising requirements of Section XI for any interval between tests longer than each cold shutdown. This will fulfill the code requirement.

3.7.1.6 Relief Request 15.4. The applicant has requested specific relief from the exercising requirements of Section XI for valves 1-8948 A, B, C and D, combined RHR and SI accumulator to RCS injection check valves, and has proposed to never full- or partial- stroke these valves.

3.7.1.6.1 Code Requirements--Refer to Appendix A.

3.7.1.6.2 Applicant's Basis for Requesting Relief--During power operation, these valves will not stroke against full RCS pressure. During cold shutdown, exercising these valves would result in RCS overpressurization. Additionally, no method for part stroking these valves is available.

3.7.1.6.3 Evaluation--The applicant's basis for not exercising valves 1-8948 A, B, C and D during power operation is acceptable. Neither the RHR pumps or the SI accumulators have sufficient pressure to open these check valves against full RCS operating pressure. However, the licensee has the ability to at least partial-stroke exercise these valves utilizing RHR flow during cold shutdown and this RHR flow is sufficient to full-stroke exercise these check valves at refueling outages. Therefore, relief should not be granted from the exercising requirements of Section XI for these check valves for any interval between tests

longer than each cold shutdown for partial-stroke exercising and each refueling outage for full-stroke exercising.

3.7.1.6.4 Conclusion--Based on the considerations discussed above, relief will not be granted from the exercising requirements of Section XI for these valves for any interval between tests longer than each cold shutdown for partial-stroke exercising and each refueling outage for full-stroke exercising. Relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.1.7 Relief Request 15.7. The applicant has requested specific relief from the exercising requirements of Section XI for 1SI-8819A, B, C and D, safety injection pump cold leg injection check valves, and has proposed to full-stroke exercise these valves during each refueling outage .

3.7.1.7.1 Code Requirements--Refer to Appendix A.

3.7.1.7.2 Applicant's Basis for Requesting Relief--During power operation, the safety injection pumps cannot open these check valves against full operating RCS pressure. During cold shutdown, stroking these check valves could result in RCS overpressurization. Additionally, these valves are downstream of the SI pump recirculation line, therefore, no method of partial stroking is available. These valves will be full-stroke exercised during each refueling outage.

3.7.1.7.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1SI-8819 A, B, C and D. The applicant has shown that these valves cannot be full- or partial-stroke exercised during power operation since the SI pumps do not develop sufficient pressure to open these check valves against operating RCS pressure. Additionally, utilizing the SI pumps to exercise these check valve during cold shutdown could result in a low-temperature overpressurization of the RCS.

3.7.1.7.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.1.8 Relief Request 15.8. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8949 A, B, C and D and 1SI-8905 A, B, C and D, safety injection pump hot leg injection check valves, and has proposed to full-stroke exercise these valves during each refueling outage.

3.7.1.8.1 Code Requirements--Refer to Appendix A.

3.7.1.8.2 Applicant's Basis for Requesting Relief--During power operation, these valves will not stroke against full RCS pressure since the SI pumps do not develop sufficient discharge head. During cold shutdown, stroking these valves with the SI pump discharge could result in a low-temperature overpressurization of the RCS. Additionally, these valves are downstream of the SI pump recirculation line, therefore, no method of partial-stroke exercising is available. These valves will be full-stroke exercised during each refueling outage.

3.7.1.8.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1-8949 A, B, C and D and 1SI-8905 A, B, C and D. The applicant has shown that these valves cannot be full- or partial-stroke exercised during power operation since the SI pumps do not develop sufficient pressure to open these check valves against operating RCS pressure. Additionally, utilizing the SI pumps to exercise these check valves during cold shutdown could result in a low-temperature overpressurization of the RCS.

3.7.1.8.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.2 Category C Valves

3.7.2.1 Relief Request 15.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8922 A and B, safety injection pump discharge check valves, and has proposed to full-stroke exercise these valves during each refueling outage.

3.7.2.1.1 Code Requirements--Refer to Appendix A.

3.7.2.1.2 Applicant's Basis for Requesting Relief--During power operation, no positive means exist to verify operation. During cold shutdown, stroking these valves would result in RCS overpressurization. The only feasible method for stroking these valves is by injecting water into the primary loop during refueling outages. These valves are downstream of the recirculation lines, therefore partial stroking is not possible.

3.7.2.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1-8922 A and B. The applicant has shown that these valves cannot be full- or partial-stroke exercised during power operation since the only flow path available is into the RCS and the SI pumps cannot develop sufficient discharge head to pump into the operating RCS. Additionally, during cold shutdown, utilizing the SI pumps to pump into the RCS would result in a low-temperature overpressurization of the RCS.

3.7.2.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.2.2 Relief Request 15.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8969 B, RHR heat exchanger #2 to SI pump suction check valve, and has proposed to exercise this valve during each refueling outage.

3.7.2.2.1 Code Requirements--Refer to Appendix A.

3.7.2.2.2 Applicant's Basis for Requesting Relief--During power operation, plant design will not permit stroking of this valve unless the SI pump recirculation lines are isolated. To open 8804 B, valves 8813 or 8814 A and B must be shut to prevent recirculating sump water to the RWST. Operation of the SI pump without recirculation at power operation could result in damage to the SI pump. During cold shutdown, stroking of this valve would result in overpressurization of the RCS. This valve will be full-stroke exercised during each refueling outage.

3.7.2.2.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8969 B. The applicant has shown that full- or partial-stroke exercising this valve during power operation would require a valve line-up that isolates the SI pumps recirculation flowpath and would therefore render both trains of SI unavailable. Additionally, during cold shutdown, exercising this valve could ultimately result in a low-temperature overpressurization of the RCS.

3.7.2.2.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.2.3 Relief Request 15.3. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8969A, RHR heat exchanger #1 to charging pump suction check valve, and has proposed to exercise this valve during each refueling outage.

3.7.2.3.1 Code Requirements--Refer to Appendix A.

3.7.2.3.2 Applicant's Basis for Requesting Relief--During power operation, plant design will not permit stroking of this valve unless the charging pump recirculation lines are isolated. To open 8804 A, valves 8810 or 8811 must be shut to prevent recirculating sump water to the RWST. Operation of the charging pumps without recirculation at power operation could result in damage to the charging pumps. During cold shutdown, stroking these valves would result in RCS overpressurization. These valves will be full-stroke exercised during each refueling outage.

3.7.2.3.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8969A. The applicant has shown that full- or partial-stroke exercising this check valve during power operation would require a valve line-up that isolates the charging pump recirculation flowpath and would therefore render both trains of charging pump injecti on unavailable. Additionally, exercising these valves during cold shutdown could ultimately result in a low-temperature overpressurization of the RCS.

3.7.2.3.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.2.4 Relief Request 15.9. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8815 and 1-8900 A, B, C and D, centrifugal charging pump cold leg injection check valves, and has proposed to full-stroke exercise these valves during each refueling outage.

3.7.2.4.1 Code Requirements--Refer to Appendix A.

3.7.2.4.2 Applicant's Basis for Requesting Relief--During power operation, opening isolation valves 8801 A or B to exercise the above check valves would provide a low resistance flowpath for normal charging water and, therefore, bypass the regenerative heat exchanger and the reactor coolant pumps seals. This would also cause an unnecessary thermal shock to the SI penetrations. During cold shutdown, operation of the system necessary to open these check valves would result in overpressurization of the RCS. Additionally, these check valves are downstream of the charging pump recirculation line and, therefore, no method of partial stroking is available.

3.7.2.4.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1-8815 and 1-8900 A, B, C and D. The applicant has shown that full- or partial-stroke exercising these valves during power operation would result in bypassing the normal charging flowpath through the regenerative heat exchanger and reactor coolant pump seals and cause the charging pump discharge to flow into the RCS via the safety injection nozzles resulting in additional thermal cycles on these injection nozzles possibly resulting in premature failure of these nozzles. During cold shutdown, exercising these check valves could result in a low-temperature overpressurization of the RCS.

3.7.2.4.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.7.2.5 Relief Request 15.11. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8926, SI pumps suction from RWST check valve, and has proposed to partial-stroke exercise this check valve quarterly and full- stroke exercise it during refueling outages.

3.7.2.5.1 Code Requirements--Refer to Appendix A.

3.7.2.5.2 Applicant's Basis for Requesting Relief--This valve can be partial-stroke exercised quarterly by running an SI pump on miniflow recirculation but full stroking is not possible without pumping through the safety injection lines into the primary, which is only feasible during refueling outages, therefore, this check valve will be partial-stroke exercised quarterly and full-stroke exercised during each refueling outage.

3.7.2.5.3 Evaluation --Relief should be granted from the exercising requirements of Section XI for valve 1-8926. The applicant has shown that the only flowpath available for full-stroke exercising this check valve is into the RCS. The SI pumps do not develop sufficient discharge pressure to pump into the operating reactor coolant system. During cold shutdown, utilizing this method to full-stroke exercise this check valve could result in a low-temperature overpressurization of the RCS.

3.7.2.5.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.8 Chemical and Volume Control System

3.8.1 Category A/C Valves

3.8.1.1 Relief Request 16.1. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8381, normal charging inside containment isolation check valve, and has proposed to exercise this valve shut (the safety position) during each refueling outage by leak-rate testing.

3.8.1.1.1 Code Requirements--Refer to Appendix A.

3.8.1.1.2 Applicant's Basis for Requesting Relief--No positive means exist to verify proper function of this valve at either power operation or cold shutdown. This valve will be exercised shut at refueling outages during leak-rate testing.

3.8.1.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8381. The applicant has shown that the only available means of verifying closure for this check valve is by leak-rate testing.

3.8.1.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.8.1.2 Relief Request 16.2. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8180, RCP seal leak-off return containment isolation check valve, and has proposed to verify this valve shut (the safety position) at each refueling outage during leak-rate testing.

3.8.1.2.1 Code Requirements--Refer to Appendix A.

3.8.1.2.2 Applicant's Basis for Requesting Relief--No positive means exist to verify proper function of this valve at either power operation or cold shutdown. This valve will be exercised shut at refueling outages during leak-rate testing.

3.8.1.2.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8180. The applicant has shown that the only available means of verifying valve closure for this check valve is by leak-rate testing.

3.8.1.2.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.8.1.3 Relief Request 16.3. The licensee has requested specific relief from the exercising requirements of Section XI for 1CS-8368 A, B, C and D, RCP seal

injection inside containment isolation check valves, and has proposed to verify these valves shut (the safety position) at each refueling outage during leak-rate testing.

3.8.1.3.1 Code Requirements--Refer to Appendix A.

3.8.1.3.2 Licensee's Basis for Requesting Relief--No positive means exist to verify proper function of these valves at either power operation or cold shutdown. These valves will be exercised shut at refueling outages during leak-rate testing.

3.8.1.3.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1CS-8368 A, B, C and D. The applicant has shown that the only available means of verifying valve closure for these check valves is by leak-rate testing.

3.8.1.3.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.8.2 Category C Valves

3.8.2.1 Relief Request. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8481 A and B, centrifugal charging pumps discharge check valves, and has proposed to partial-stroke exercise these valves quarterly and full-stroke exercise them during refueling outages.

3.8.2.1.1 Code Requirements--Refer to Appendix A.

3.8.2.1.2 Applicant's Basis for Requesting Relief--During power operation, full-stroke exercising of these valves is not possible due to head loss in the normal charging path. During cold shutdown, full-stroke exercising these valves would result in overpressurization of the RCS. These check valves will be partial-stroke exercised quarterly and full-stroke exercised during each refueling outage.

3.8.2.1.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valves 1-8481 A and B. The applicant has shown that the normal charging flow path head loss prevents full-stroke exercising these valves during power operation. The only flow path available for full-stroke exercising these check valves is the safety injection flow path into the RCS and during normal operation this would result in excessive thermal cycles on the injection nozzles. Additionally, during cold shutdown, full-stroke exercising these valves could result in a low-temperature overpressurization of the RCS.

3.8.2.1.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

3.8.2.2 Relief Request 16.5. The applicant has requested specific relief from the exercising requirements of Section XI for 1-8546, charging pump suction from RWST check valve, and has proposed to partial-stroke exercise this valve during cold shutdowns and full-stroke exercise it during each refueling outage.

3.8.2.2.1 Code Requirements--Refer to Appendix A.

3.8.2.2.2 Applicant's Basis for Requesting Relief--Stroking this valve at power operation requires the feed to be supplied to charging pumps from the RWST and this would result in an uncontrolled reactivity transient. This valve can be partial stroked during cold shutdown but full stroking would require using the SI flow path which would cause RCS overpressurization. This valve will be partial-stroke exercised during cold shutdown and full-stroke exercised during each refueling outage.

3.8.2.2.3 Evaluation--Relief should be granted from the exercising requirements of Section XI for valve 1-8546. The applicant has shown that full- or partial-stroke exercising this valve during power operation would require injecting the relatively high boron concentrated water from the RWST into the RCS, resulting in a reactivity transient which could cause a reactor trip. During cold shutdown, utilizing the flowpath needed to full-stroke exercise this valve could result in a low-temperature overpressurization of the RCS.

3.8.2.2.4 Conclusion--Based on the considerations discussed above, the alternate testing proposed will give reasonable assurance of valve operability intended by the Code and that the relief thus granted will not endanger life or property or the common defense and security of the public.

APPENDIX A

1 CODE REQUIREMENTS--VALVES

Subsection IWV-3411 of the 1980 Edition through Winter 1981 addenda of the Section XI ASME Code (which discusses full-stroke and partial-stroke requirements) requires that Code Category A and B valves be exercised once every three months, with exceptions as defined in IWV-3412(a), IWV-3415, and IWV-3416. IWV-3521 (which discusses full-stroke and partial-stroke requirements) requires that Code Category C valves be exercised once every three months, with exceptions as defined in IWV-3522. In the above exceptions, the Code permits the valves to be tested at cold shutdown where:

1. It is not practical to exercise the valves to the position required to fulfill their function or to the partial position during power operation.

2. It is not practical to observe the operation of the valves (with failsafe actuators) upon loss of actuator power.

Subsection IWV-3413 requires all Category A and B power-operated valves to be stroke-time tested to the nearest second or 10% of the maximum allowable owner-specified time.

2 CODE REQUIREMENTS--PUMPS

An inservice test shall be conducted on all pumps that perform a function important to safety, nominally once every three months during normal plant operation. Each inservice test shall include the measurement, observation, and recording of all quantities in Table IWP-3100-1, except bearing temperature, which shall be measured during at least one inservice test each year.

APPENDIX B

The following are Category A, B, and C valves that meet the exercising requirements of the ASME Code, Section XI, and are not full-stroke exercised every three months during plant operation. These valves are specifically identified by the owner and are full-stroke exercised during cold shutdowns and refueling outages. Testing these valves during power operation is not practical, due to the valve type and location or system design. These valves cannot or should not be exercised during power operation. These valves are listed below and grouped according to the system in which they are located.

1 STEAM GENERATOR FEEDWATER SYSTEM

1.1 Category B Valves

Valves 1-HV-2134, 1-HV-2135, 1-HV-2136 and 1-HV-2137, main feedwater to steam generators isolation valves, cannot be exercised during power operation since this would cause an interruption of feedwater to the steam generators resulting in a reactor trip. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

1.2 Category C Valves

Valves 1FW-070, 1FW-076, 1FW-082 and 1FW-088, main feedwater to steam generators check valves, cannot be exercised shut during power operation since this would cause an interruption of feedwater to the steam generators and introduce unwarranted transients to the primary as well as secondary systems possibly resulting in a reactor trip. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1FW-195, 1FW-196, 1FW-197 and 1FW-198, tempering line backflow to steam generators check valves, cannot be exercised during power operation since the auxiliary feedwater flow necessary to stroke these valves is not preheated and, therefore, would cause an unnecessary thermal shock to the S/G auxiliary feedwater nozzles. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

2 MAIN STEAM, REHEAT AND STEAM DUMP SYSTEMS

2.1 Category B Valves (See paragraph 2 of Appendix C)

Valves 1-HV-2333A, 1-HV-2334A, 1-HV-2335A and 1-HV-2336A, main steam isolation valves, cannot be full-stroke exercised during power operation since this would cause an interruption of main steam flow to the high pressure turbine and could result in a plant trip. These valves will be partial-stroke exercised quarterly and full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-HV-2333B, 1-HV-2334B, 1-HV-2335B and 1-HV-2336B, MSIV bypass valves, cannot be full- or partial-stroke exercised during power operation since these valve are interlocked with the MSIV's such that when the MSI V's are open, the bypass valve are closed. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

3 AUXILIARY FEEDWATER SYSTEM

3.1 Category C Valves

Valves 1AF-075, 078, 086, 088, 093, 098, 101 and 106, auxiliary feedwater to the steam generators check valves, cannot be full- or partial-stroke exercised during power operation since this would cause an unnecessary thermal shock to the steam generator auxiliary feedwater nozzles. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

4 COMPONENT COOLING WATER SYSTEM

4.1 Category A Valves

Valves 1-HV-4 696, 1-HV-4700, 1-HV-4701, 1-HV-4708 and 1-HV-4709, component cooling water containment isolation valves, cannot be full- or partial-stroke exercised during power operation since stroking these valves would interrupt component cooling water flow to the reactor coolant pump coolers which are necessary for power operation. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

4.2 Category B Valves

Valves 1-HV-4524, 1-HV-4525, 1-HV-4526 and 1-HV-4527, component cooling water to non-safeguards loop isolation valves, cannot be full- or partial-stroke exercised during power operation since this would interrupt cooling water flow to equipment necessary for plant operation such as the letdown heat exchanger, seal water heat exchanger and reactor coolant pump coolers. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-HV-4631 A and B, component cooling water to and from the primary sample coolers isolation valves, cannot be full- or partial-stroke exercised during power operation since this would interrupt component cooling water flow to equipment necessary for normal operation. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-HV- 4663 A and B, component cooling water to the instrument air compressor isolation valves, cannot be exercised during power operation since this would isolate cooling water to the instrument air compressor which supplies air to all air operated process control valves. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-FV-4650 A and B, component cooling water to ventilation chillers isolation valves, cannot be exercised during power operation since this would interrupt cooling water flow for the HVAC chiller units which supply chilled water to containment, auxiliary, safeguards and fuel handling buildings HVAC. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

5 REACTOR COOLANT SYSTEM

5.1 Category B Valves

Valves 1-HV-3607 and 1-HV-3608, reactor vessel head vent valves, cannot be exercised during power operation since this would unnecessarily jeopardize the integrity of the reactor coolant system by venting the RCS to the containment. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

6 VENTILATION CHILLED WATER SYSTEM

6.1 Category A Valves

Valves 1-HV-6082, 1-HV-6083 and 1-HV-6084, ventilation chilled water to and from containment isolation valves, cannot be exercised during power operation since this would interrupt chilled water flow to equipment necessary for normal operation, i.e., containment cooling units and detector well cooling units. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

7 RESIDUAL HEAT REMOVAL SYSTEM

7.1 Category A Valves

Valves 1-8701 A and B and 1-8702 A and B, RCS hot leg to RHR isolation valves, cannot be exercised during power operation since these valves are interlocked with RCS pressure which prevents opening these valves when RCS pressure is greater than 425 psig. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

8 SAFETY INJECTION SYSTEM

8.1 Category B Valves

Valves 1-8807 A and B, flowpath isolations between SI pumps and charging pumps suctions, cannot be exercised during power operation since this would allow inadvertant transfer of water between the VCT and the RWST. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valve 1-8806, SI pump suction from the RWST isolation valve, cannot be exercised during power operation since failure of this valve in the closed position would render both trains of SI unavailable. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

Valve 1-8813, minimum flow recirculation from SI pumps common isolation valve, cannot be exercised during power operation since this could render both SI pumps unavailable by isolation of the recirculation path for both pumps. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-8809 A and B, RHR injection to RCS cold legs isolation valves, cannot be exercised during power operation since this would cause a loss of the required number of cold leg, low head safety injection flow paths. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valve 1-8835, SI pumps discharge to RCS cold leg injection isolation valve, cannot be exercised during power operation since failure in the closed position would isolate the SI pump to all RCS cold legs injection flow paths. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

9 CHEMICAL AND VOLUME CONTROL SYSTEM

9.1 Category A Valves

Valves 1-8152 and 1-8160, CVCS letdown containment isolation valves, cannot be exercised during power operation since this would result in loss of normal letdown flow, which would stop the preheating of the charging water going through the regenerative heat exchanger. This lack of preheating would cause an unnecessary thermal shock to the chaging line penetration. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-8100 and 1-8112, RCP seal leak-off containment isolation valves, cannot be exercised shut during power operation since this would interrupt seal water flow from the RCP's which could result in seal damage. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-8351 A, B, C and D, RCP seal injection containment isolation valves, cannot be exercised shut during power operation since this would isolate seal water injection flow which could result in RCP seal damage. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valve 1-8105, normal charging containment isolation valve, cannot be exercised during power operation since this would interrupt normal charging flow which could result in loss of pressurizer level control. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

9.2 Category B Valves

Valve 1-8106, normal charging isolation valve, cannot be exercised during power operation since this would interrupt normal charging flow which could result in loss of pressurizer level control. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-LCV-112 D and E, charging pump suction from RWST isolation valves, cannot be exercised during power operation since this would result in defeating the chemical balance attained by normal use of the CVCS. The subsequent reactivity transient could result in an uncontrolled plant shutdown. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

Valves 1-LCV-112 B and C, volume control tank outlet isolation valves, cannot be exercised during power operation since this would cause a loss of the following: pressurizer level control, RCP seal injection, and letdown regenerative heat exchanger cooling. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

9.3 Category C Valves

Valve 1CS-8442, emergency boration flow path check valve, cannot be full- or partial-stroke exercised during power operation since stroking would require flow through the emergency boration flow path which would cause a reactivity transient resulting in plant shutdown. This valve will be full-stroke exercised during cold shutdowns and refueling outages.

10 CONTAINMENT VENTILATION SYSTEM

10.1 Category A Valves

Valves 1-HV-5548 and 1-HV-5549, containment pressure relief valves, cannot be exercised during power operation since plant Technical Specifications limit the amount of time that these valves can be open during operation. These valves will be full-stroke exercised during cold shutdowns and refueling outages.

APPENDIX C

1. The following valves were listed in the Technical Specifications (Table 3.6-1) as containment isolation valves but are not listed in the IST program:

1-8890A
1-8890B
1-8843
1-8881
1-8824
1-8823
1-8825
1FW-158
1FW-106
1FW-157
1FW-104
1FW-156
1FW-102
1FW-159
1FW-108
1SI-8919C
1SI-8919D
1FV-2193
1FV-2194
1FV-2195
1FV-2196

The above valves must be included in the IST program. They are to be categorized A or A/C unless a suitable relief request is provided and subsequently reviewed and approved by NRC.

2. The following valves were listed in the Technical Specifications (Table 3.6-1) as containment isolation valves. These valves are also listed in the IST program but are not categorized A or A/C:

1HV-2134
1HV-2185
1HV-2135
1HV-2186
1HV-2136
1HV-2187
1HV-2137
1HV-2188

1HV-2154
1HV-2155
1HV-2156
1HV-2157
1HV-2399
1HV-2398
1HV-2397
1HV-2400
1HV-2405
1HV-2406
1HV-2407
1HV-2408
1-8708B
1-8708A
1HV-2452-1
1PV-2325
1PV-2326
1PV-2327
1HV-2452-2
1PV-2328
1HV-2491A
1HV-2491B
1HV-2492A
1HV-2492B
1HV-2493A

1HV-2493B
1HV-2494A
1HV-2494B
1-8809A
1-8809B
1-8802A
1-8802B
1-8835
1-8840
1-8815
1SI-8919A
1SI-8919B
1HV-2333A
1HV-2333B
1HV-2409
1HV-2334A
1HV-2334B
1HV-2410
1HV-2335A
1HV-2335B
1HV-2411
1HV-2336A
1HV-2336B
1HV-2412

The above valves must be categorized A or A/C unless a suitable relief request is provided and subsequently reviewed and approved by NRC.

APPENDIX D

The following is a list of P&ID's used during the review of the Comanche Peak Steam Electric Station, Unit 1, IST program.

System	P&ID No.	Revision
Station Service Water (Sheet 1 of 2)	2323-M1-0233	5
Station Service Water (Sheet 2 of 2)	2323-M1-0234	5
Steam Generator Feedwater	2323-M1-0203-01	1
Main Steam, Reheat and Steam Dump	2323-M1-0202	7
Auxiliary Feedwater	2323-M1-0206	4
Component Cooling Water (Sheet 1 of 3)	2323-M1-0229	8
Component Cooling Water (Sheet 2 of 3)	2323-M1-0230	8
Component Cooling Water (Sheet 3 of 3)	2323-M1-0231	8
Reactor Coolant (Sheet 1 of 2)	2323-M1-0250	5
Reactor Coolant (Sheet 2 of 2	2323-M1-0251	5
Demineralized and Reactor Make-up Water (Sheet 1 of 2)	2323-M1-0241	8
Demineralized and Reactor Make-up Water (Sheet 2 of 2)	2323-M1-0242	9
Vents and Drains--Containment Building	2323-M1-0238	7
Process Sampling	2323-M1-0228	4
Compressed Air	2323-M1-0216	6
Liquid Waste Processing	2323-M1-0264	6
Ventilation Chilled Water	2323-M1-0307	6
Containment Spray	2323-M1-0232	5
Residual Heat Removal	2323-M1-0260	5
Safety Injection (Sheet 1 of 3)	2323-M1-0261	5

System	P&ID No.	Revision
Safety Injection (Sheet 2 of 3)	2323-M1-0262	5
Safety Injection (Sheet 3 of 3)	2323-M1-0263	5
Chemical and Volume Control (Sheet 1 of 4)	2323-M1-0253	5
Chemical and Volume Control (Sheet 2 of 4)	2323-M1-0254	5
Chemical and Volume Control (Sheet 3 of 4)	2323-M1-0255	4
Chemical and Volume Control (Sheet 4 of 4)	2323-M1-0256	5
Chemical and Volume Control (Common)	2323-M1-0257	5
Safety Chilled Water	2323-M1-0311	2
Ventilation--Containment (Sheet 2)	2323-M1-0301	3
Spent Fuel Pool Cooling and Clean-up	2323-M1-0235	CP-3
Containment Building Fire Protection	2323-M1-0225-05	CP-2
Diesel Generator Auxiliary Systems	2323-M1-0215	CP-2

APPENDIX E

1. The following relief requests have insufficient technical information provided or are not in accordance with the NRC staff's positions and guidelines and relief is not granted:

SER PARAGRAPH		SUBJECT
3.2.1.1	-	Testing of valves identified for cold shutdown exercising
3.2.4	-	Containment isolation valve analysis of leakage rates and corrective action
3.4.2.1	-	Pressurizer PORV's
3.6.1.1	-	Containment spray header check valves
3.6.2.1	-	Containment spray pump suction check valves from containment recirculation sumps
3.7.1.2	-	RHR pump suction isolation from the containment recirculation sumps
3.7.1.3	-	SI accumulator discharge check valves
3.7.1.5	-	RHR to cold leg injection check valves
3.7.1.6	-	Combined RHR and SI accumulator injection check valves

2. Relief request 3.2.3.1 evaluation specifies that relief be granted providing the applicant identifies rapid acting valves as those valves operating in 2 seconds or less rather than 5 seconds.

3. Valves HV-2480, 2481, 2482, 4393, 4394, 4395, 4396, 1SW-389 and 388, service water to auxiliary feedwater, were deleted from or not included in the IST program since the applicant states these valves perform no function important to safety. These valve do perform a safety related function and therefore must be included in the IST program and tested to the Section XI requirements or relief requested. FSAR question response R212.32, item I-7 states the licensee appears to take credit for the operability of these valves.

4. The following emergency diesel generator air start system check valves are not currently included in the IST program. These valves perform a safety related function and they should be included and exercised per Section XI.

1DD-060	1DD-062
1DD-061	1DD-063
1DD-064	1DD-058
1DD-065	1DD-059

5. The emergency diesel generator air start solenoid valves are included in the IST program, however, a valve category was not assigned to these valves.

6. The valves listed in Section 3.1.7 of this report are identified by the licensee as pressure boundary isolation valves and categorized A or A/C in the IST program; however, the present type and frequency of leak testing must meet the NRC test and acceptance criteria established for valves that perform a pressure boundary isolation function. Staff requirements are included in Section 3.1.7 for PIV's.

7. The following safety injection system valves were deleted from the IST program and no explanation was provided. These valves should be included in the IST program and tested in accordance with code and staff requirements as outlined herein.

1-8924 SI and charging pump suction from RWST cross tie

1-8814 A & B SI pumps recirculation to RWST isolations

1-8881
1-8823 SIS injection test header containment isolation
1-8824 valves (See paragraph 1 of Appendix C)
1-8825

1-8890 A & B RHR injection test header containment isolation valves (See paragraph 1 of Appendix C)

1-8843 Charging pump injection test header containment isolation valve. (See paragraph 1 of Appendix C).

8. In the IST program (page ii) the applicant states that "Only those valves which are required to be either leak rate tested or exercised per Table IWV-3700-1, are included in the test program." The staff's position, as stated in Standard Review Plan (NUREG 0800) Section 3.9.6.II.1 and .2 is that all safety related pumps and valves must be included in the program tabulation. The applicant is required to revise the IST program for Comanche Peak to comply with the staff's position. Valves and pumps which cannot or should not be tested in accordance with the requirements outlined herein must be listed in the program along with a properly documented relief request, even though they will not be tested.