Omaha Public Power District
444 South 16th Street Mall
Omaha, Nebraska 68102-2247
402/636-2000

April 4, 1991
LIC-91-114R

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from NRC (P. D. Milano) to OPPD (K. J. Morris) dated December 22, 1988
3. Letter from NRC (S. A. Varga) to OPPD (K. J. Morris) dated April 3, 1989, Generic Letter 89-04
4. NUREG 1352, Action Plans for Motor-Operated Valves and Check Valves, dated June 1990.
5. Letter from OPPD (W. G. Gates) to NRC (Document Control Desk), dated October 8, 1990, (LIC-90-0756)
6. Letter from NRC (T. P. Gwynn) to OPPD (W. G. Gates), dated January 30, 1991

Gentlemen:

SUBJECT: Resolution of Items Identified During NRC Review of Fort Calhoun Station (FCS) Inservice Inspection (ISI) Program Plan, Revision 5

Enclosed is Attachment 1 which contains Omaha Public Power District's (OPPD's) response to concerns identified during NRC review (Reference 6) of the FCS ISI Program Plan, Revision 5 (Reference 5).

Changes made to the initial FCS ISI Program Plan, Revision 5 submittal (Reference 5) are contained in Attachment 2. These changes were made during the period of October 8, 1990, through March 15, 1991 and justification for these changes is provided.

If you have any questions, please contact me.

Sincerely,

W. G. Gates

W. G. Gates
Division Manager
Nuclear Operations

Attachments

WGG/sel

c: LeBoeuf, Lamb, Leiby and MacRae
W. T. Walker, NRC Project Manager
R. D. Martin, NRC Regional Administrator, Region IV
R. P. Mullikin, NRC Senior Resident Inspector

ATTACHMENT 1

NRC Item No. 1

Code Exception Number G2 for valves: The relief from IWV-3427(b) of the ASME Code granted through Generic Letter 89-04, Attachment 1, Position 10, applies only to CIVs under containment leak rate testing. Therefore, the licensee should change the applicability of this relief request from all Category A type valves to only CIVs.

OPPD Response

The ISI Program Plan Revision 5, Code Exception Number G2 for valves has been revised to be applicable to Containment Isolation Valves (CIVs) only.

NRC Item No. 2

Code Exception Numbers E5, E7 and E10 for Valves: The licensee has proposed using disassembly and inspection to verify the full-stroke open capability of check valves. While disassembly and inspection is an acceptable method for verifying the full-stroke open capability of check valves, the NRC staff considers valve disassembly and inspection to be a maintenance procedure with inherent risks which make its use as a substitute for testing undesirable when other testing methods are possible. The NRC staff positions regarding check valve disassembly and inspection to verify the full-stroke open capability are explained in detail in Generic Letter No. 89-04, Attachment 1, Item 2. The minutes on the public meetings on Generic Letter No. 89-04 regarding this staff position further stipulate that a partial stroke exercise test using flow is expected to be performed after disassembly and inspection is completed but before the valve is returned to service. A preferred alternative is to verify that these valves move to their fully open position by use of non-intrusive diagnostic testing techniques during a reduced flow test at least once each refueling outage.

The licensee should investigate methods to perform a partial flow test of the disassembled valves before they are returned to service. The licensee should also investigate the use of non-intrusive diagnostic techniques to demonstrate that these valves swing fully open during partial flow testing. If another method is developed to verify the full stroke capability of these valves, these relief requests should be revised or withdrawn.

OPPD Response

Prior to deciding on disassembly and inspection to satisfy the requirements of Section XI, Subsection IWV, all other possible methods of determining check valve position have been evaluated. OPPD recognizes that the disassembly and inspection of check valves to satisfy ASME Section XI code requirements is <u>not</u> a preferable test method. However, in this instance it is the best available method.

This conclusion is based upon past history, industry experience, NUREG 1352 criteria and discussions with INPO/NRC and other utilities. OPPD is confident that the disassembly and inspection of check valves listed in the ISI Program Plan Revision 5 (Reference 5) provides an adequate assurance of check valve operability and detection of degradation.

OPPD will continue to evaluate new methods and technology for check valve testing (i.e., nonintrusive inspection techniques) as it becomes available. In addition, OPPD will evaluate methods proposed by the Nuclear Industry Check Valve (NIC) group. Those changes that enhance or improve the ability of OPPD to determine check valve operability will be incorporated as required into future ISI program revisions. Additional details concerning Code Exception Numbers E5, E7 and E10 for valves follow.

(a) Code Exception Number E5 - Check Valves SI-139 and SI-140

These check valves are located in the Safety Injection lines leading from the Safety Injection and R[illegible]ing Water Tank (SIRWT) to the suctions of the Containment Spray (CS) pumps, the Low Pressure Safety Injection (LPSI) pumps and the High Pressure Safety Injection (HPSI) pumps. These valves are 20 inch austenitic stainless steel, type 304 Mission Duo-Chek check valves. These check valves are required under certain accident conditions to provide design basis flow to the Safety Injection (SI) and CS pumps, and to prevent backflow to the SIRWT.

As stated in Generic Letter (GL) 89-04, Attachment 1, Position 1, "A check valve's full-stroke to the open position may be verified by passing the maximum required accident condition flow through the valve. This is considered by the staff as an acceptable full-stroke. Any flow rate less than this will be considered a partial-stroke exercise."

During power, a full flow path does not exist for a combination of pumps because the HPSI and LPSI pumps are not able to overcome normal Reactor Coolant System (RCS) pressure and the CS pumps cannot be permitted to spray down the Containment.

No full flow path is available during Cold Shutdowns because operating the HPSI pumps could create a low-temperature overpressure condition in the RCS. CS pumps cannot be used because the Containment would be sprayed down. Therefore, it is impractical to establish design basis flow through these check valves during Cold Shutdowns and refueling outages.

In Reference 5 OPPD responded to an NRC recommendation (Reference 2) by stating that during normal operations, OPPD will perform a partial-stroke exercise of the check valves using the minimum recirculation flow path quarterly. One check valve will be disassembled and inspected every other Refueling Outage in accordance with the guidance given in GL 89-04, Attachment 1, Position 2 (Reference 3). This method of sample disassembly and inspection includes manual exercising of the check valves to their full open and closed positions, and ensures that each check valve is tested at least once every 6 years, as well as ensuring that a partial stroke test is performed after reinstallation of the check valves but

prior to returning the valves to service. Due to the relatively low pressure and temperature seen by these valves and previous disassembly and inspection performed during the 1989 and 1990 Refueling Outages which showed "like-new" valve condition, this is considered an adequate method of ensuring the operability of these check valves to perform their function during an accident.

(b) Code Exception Number E7 - Check Valves SI-159 and SI-160

These check valves function to prevent backflow to the Containment sump. These valves are in series with motor-operated isolation valves HCV-383-3 and HCV-383-4 which are normally closed, fail-as-is, and open only upon receipt of a containment Recirculation Actuation Signal (RAS). These check valves are located outside Containment and are only required to open during a Recirculation Actuation Signal (RAS). These valves are 24 inch austenitic stainless steel Type 304 Mission Duo-Chek check valves. These check valves function to close the recirculation path preventing backflow to the Containment sump.

As stated in GL 89-04, Attachment 1, Position 1, "A check valve's full-stroke to the open position may be verified by passing the maximum required accident condition flow through the valve. This is considered by the staff as an acceptable full-stroke. Any flow rate less than this will be considered a partial-stroke exercise."

Due to system design, these valves cannot be partial or full-stroke exercised with flow either during power operation, Cold Shutdown or Refueling Outage because the Containment sump is normally dry and there is no flow path available for testing. Full-stroke exercising these valves requires that the Containment sump be filled with water and provided with a source of makeup in addition to operating the CS, LPSI, and HPSI pumps at rated capacity.

As recommended by the NRC in Reference 2, and as stated in Reference 5, OPPD will disassemble and inspect one check valve every other Refueling Outage in accordance with the guidance given in GL 89-04, Attachment 1, Position 2 (Reference 3). This method of sample disassembly and inspection includes manual exercising of the check valves to their full open and closed positions and ensures that each check valve is tested once every 6 years. As stated previously, a partial-stroke test is not able to be performed as system configuration renders flow testing of these valves impractical. Due to the relatively low pressure and temperature seen by these valves and previous disassembly and inspection results showing "like-new" valve condition, this is considered an adequate method of ensuring the operability of these check valves to perform their function during an accident.

(c) Code Exception Number E10 - Check Valves SI-175 and SI-176

These check valves are located on the Containment Spray headers and function to prevent back flow from the Containment to the Shutdown Cooling heat exchangers and are located inside Containment. These valves are 12 inch austenitic stainless steel type 316 Mission Duo-Chek check valves.

As stated in GL 89-04, Attachment 1, Position 1, "A check valve's full-stroke to the open position may be verified by passing the maximum required accident condition flow through the valve. This is considered by the staff as an acceptable full-stroke. Any flow rate less than this will be considered a partial-stroke exercise."

Due to system design, these valves cannot be partial-stroke or full-stroke exercised with flow either during power operation, Cold Shutdown or Refueling Outage because the only flow path is into the Containment Spray headers and would result in spraying down the Containment, causing equipment damage and requiring extensive cleanup.

As recommended by the NRC in Reference 2, and as stated in Reference 5, OPPD will disassemble and inspect one check valve every other Refueling Outage in accordance with the guidance given in GL 89-04, Attachment 1, Position 2 (Reference 3). This method of sample disassembly and inspection includes manual exercising of the check valves to their full open and closed positions and ensures that each check valve is tested once every 6 years. As stated previously, a partial-stroke test is not able to be performed as system configuration renders flow testing of these valves impractical. Due to the relatively low pressure and temperature seen by these valves and previous disassembly and inspection results showing "like-new" valve condition, this is considered an adequate method of ensuring the operability of these check valves to perform their function during an accident.

NRC Item No. 3

Code Exemption Number E18 for valves: The licensee should provide justification for not testing during cold shutdown when RCS is depressurized and the RCPs are secured.

OPPD Response

Code Exception Number E18 relates to Reactor Coolant Pump control bleedoff isolation valves HCV-206 and HCV-241.

In lieu of providing the suggested justification, OPPD is changing Exception E18 of the ISI Program Plan. The ISI Program Plan Revision 5, Code Exception Number E18 for valves has been changed to a Relief Request with the frequency for testing being Cold Shutdown when the Reactor Coolant System (RCS) is depressurized and the Reactor Coolant Pumps (RCPs) are secured. The surveillance test presently requires performance at a frequency of Cold Shutdown provided that the RCS is depressurized and the RCPs are secured.

NRC Item No. 4

Code Exemption Number E30 and E38 for valves: The licensee should provide justification for not testing during cold shutdowns when RCS is depressurized and the RCS temperature is less than 130°F with RCPs off.

OPPD Response

(a) Code Exception Number E30 - Valves HCV-438A, HCV-438B, HCV-438C, HCV-438D, IA-HCV-438B-C and IA-HCV-438D-C

In lieu of providing the suggested justification, OPPD is changing Exception E30 of the ISI Program Plan. The ISI Program Plan Revision 5, Code Exception Number E30 for valves has been changed to a Relief Request with the frequency being Cold Shutdown when the RCS is depressurized, RCPs are secured and RCS temperature is less than 130°F. The surveillance test presently requires performance at a frequency of Cold Shutdown provided the RCS is depressurized, RCS temperature is less than 130°F and the RCPs are secured.

(b) Code Exception Number E38 for valves - Valves PCV-1849A and PCV-1849B

In lieu of providing the suggested justification, OPPD is changing Exception E38 of the ISI Program Plan. The ISI Program Plan Revision 5, Code Exception Number E38 for valves has been changed to a Relief Request with the frequency being Cold Shutdown when the RCS is depressurized, RCPs are secured and the RCS temperature is less than 130°F. The surveillance test will be revised to reflect the change in frequency from Refueling Outage to Cold Shutdown when the RCS is depressurized, RCPs are secured and RCS temperature is less than 130°F. This procedure change has been initiated and is expected to be issued prior to the 1992 Refueling Outage.

NRC Item No. 5

Code Exemption Number E35 for valves: The minutes from the public meetings on Generic Letter 89-04 state that the use of disassembly to verify valve closure capability may be acceptable depending on whether verification by flow or pressure measurement is practical. However, the NRC staff considers valve disassembly and inspection to be a maintenance procedure that is not equivalent to the Code required exercise testing.

This procedure has risks which may make its routine use as a substitute for testing undesirable when some other method of testing is possible. Check valve disassembly is a valuable maintenance tool that can provide a great deal of information about valve's internal condition and, as such, should be performed under the maintenance program at a frequency commensurate with the value type and service. While the licensee's proposed alternative should provide reasonable assurance that these valves are capable of performing their safety

function in the closed position, the licensee should investigate other methods of exercising them to the closed position. Specifically, the licensee should investigate the use of leak testing (reverse flow closure verification) or non-intrusive diagnostic techniques such as acoustics or radiography to demonstrate that these valves close when subjected to reverse flow conditions.

The minutes from the public meetings on Generic Letter 89-04 also state that partial-stroke exercise testing with flow is expected to be performed after valve disassembly and inspection is completed, but before returning the valve to service. This post-inspection testing provides a degree of confidence that the disassembled valve has been reassembled properly and that the disk moves freely.

The licensee should investigate methods to perform a partial flow test of the disassembled valves before they are returned to service. The licensee should also investigate methods, other than disassembly and inspection, of verifying the reverse flow closure capability of these valves. This relief request should be revised or deleted if another method is developed to verify the reverse flow closure capability.

OPPD Response

OPPD's philosophy on sample disassembly and inspection of check valves is described in paragraphs 1-3 of OPPD's response to Item 2. Additional details concerning Code Exception E35 for valves follow.

Code Exception Number E35 - Reverse flow check valves HCV-1041B and HCV-1042B

As stated in Reference 5, these check valves are located downstream of the Main Steam Isolation Valves (MSIVs), and are installed to provide a positive isolation of the Steam Generators by preventing backflow through the MSIVs. These valves are 28 inch carbon steel swing check valves which prevent reverse backflow into a faulted Steam Generator if main steam header pressure is greater than Steam Generator pressure.

These check valves cannot be exercised quarterly during power operation because to do so would cause steam to be isolated to the main steam header thereby causing the turbine to trip resulting in a reactor trip. In order to perform a reverse flow test of the check valve the main steam header, a 28" line, would have to be pressurized downstream of the Main Steam Isolation Valves (MSIVs). This is not a desirable condition due to the extensive effort required to perform this test as well as the other concerns, such as seismic, logistic, operational, etc. created by this test method. Therefore, to try to perform a reverse flow test would create a severe hardship on OPPD and potential personnel hazard without a commensurate increase in public safety.

As stated in Reference 5, OPPD will disassemble and inspect one check valve each Refueling Outage, on an alternating valve basis. This sample disassembly and inspection of these check valves is in accordance with the NRC guidelines established in GL 89-04, Attachment 1, Position 2. Additionally, the check valves are partial stroked when the MSIVs are open and steam is admitted to the main steam header.

This method of sample disassembly, inspection and exercising of the valve disk to the closed position ensures that these check valves are able to perform their function during an accident.

NRC Item No. 6

Code Exception Number E44 for Valves: The licensee has provided a cold shutdown justification for full-stroke exercising valves SI-135, SI-143 and SI-149, Containment Spray Pump Discharge Check Valves, during cold shutdowns when the CS pumps are able to be aligned to the shutdown cooling heat exchangers (i.e. when the primary coolant temperature is less than 120°F). A relief request should have been provided because these valves will not be exercised each cold shutdown. The licensee should correct this error.

OPPD Response

The ISI Program Plan Revision 5, Code Exception Number E44 for valves has been changed to a Relief Request with a performance frequency of Cold Shutdown when the CS pumps are able to be aligned to the Shutdown Cooling heat exchangers (i.e. < 120°F primary reactor coolant temperature) in accordance with the Technical Specifications.

NRC Item No. 7

Code Exception Number E5 for Pumps: The licensee has proposed a full scale range of flow measuring instrument that is approximately six times the reference value in lieu of the Code required limit of three times the reference value or less. This proposal, when combined with the instrument accuracy requirements of ± 2% of full scale, effectively limits the total measurement accuracy for flow rate instrumentation to ± 12% of the reference value. The flow measurement that is off by 12% would be a questionable indicator of pump degradation. The licensee should, therefore, investigate the procurement and installation of instrumentation - preferably, non-intrusive types-that meet the Code range and accuracy requirements.

OPPD Response

Code Exception Number E5 - Raw Water Pumps AC-10A, B, C, D
Charging Pumps CH-1A, B, C

In accordance with Reference 2 and the ISI Program Plan Revision 5 (Reference 5), OPPD has been testing the Raw Water (RW) and Charging (CH) pumps using flow instrumentation with a range greater than three times the reference value for one RW or CH pump, respectively. As stated in Code Exception E5 for pumps of the ISI Program Plan Revision 5, the RW and CH pump flow instruments are designed to perform accurate measurement of the full range of potential flows that may be seen in the RW and CH systems without overranging the instruments.

Testing a RW pump through a single header could result in fluctuations of the Component Cooling Water (CCW) temperatures as well as the temperature of heat loads cooled by the CCW system. It is impractical to alter the valve lineup on balanced RW and CCW systems under these operating conditions and doing so could result in equipment damage.

Utilizing existing RW instrumentation (flow annubars) with a range greater than three times reference flow values for the RW pumps has been demonstrated to provide sufficiently accurate data to utilize in the pump monitoring program to assess pump degradation. As a result of further engineering evaluation it has been determined that the RW pumps have been averaging around 7000 gpm since 1990 and in no case have they been less than 5000 gpm. Taking the worst case (worst case being the 5000 gpm flow), each RW header was receiving approximately 2500 gpm of flow. The 2500 gpm reading is still within 4 times the scale. Based on this and the typical flow rate of approximately 3500 gpm per header, which is within the ASME required three times range, OPPD is confident that any RW pump degradation will be detected. This gives assurance that the RW pumps will be able to perform their required safety function during an accident and therefore meets the intent of ASME Section XI.

OPPD is presently evaluating alternative methods of RW system flow measurement. This evaluation is expected to be completed by the end of the present ten year interval ending September 25, 1993. OPPD will inform the NRC of any changes to be made to the facility as a result of this evaluation in the ISI Program 3rd ten year interval submittal.

Testing a Charging pump quarterly in accordance with the ISI Program Plan Revision 5, requires that flow be measured using an instrument designed for the simultaneous flow of all three Charging pumps. The flow of a single Charging pump is less than one-third of the flow indicator's full scale range. The existing range is required to ensure accurate indication during an accident and is designed to prevent overrranging of the instrument. OPPD is presently using the output of the plant computer as a more accurate determination of the indicated flow.

System Engineering has submitted a modification request which would install additional flow instrumentation to monitor the charging flow on the low end of the scale (i.e., flow < 40 gpm). This instrumentation would ensure that the range requirements as stated in IWP-4120 of ASME Section XI are satisfied. It is expected that this modification request will be evaluated for acceptability by the end of the current ten year interval ending September 25, 1993. OPPD will inform the NRC of any changes to be made to the facility as a result of this evaluation in the ISI Program 3rd ten year interval submittal.

NRC Item No. 8

Code Exception Number E6 for Pumps: The licensee should develop a method to evaluate vibration measurements taken while using the pump curves. A set of vibration reference values may have to be established for each pump curve used, since the vibration characteristics can vary, depending on where the pump is operating relative to the pump curve.

OPPD Response

OPPD presently develops baseline vibration data at all points used in developing the baseline pump performance curve. The baseline vibration values are referenced when flow or differential pressure changes significantly on the curve from previous tests.

OPPD's plan is to incorporate applicable portions of the FCS Vibration Analysis Program into the Inservice Testing (IST) Program for the next Ten Year Interval (September 1993 - September 2003). Incorporating ASME/ANSI OM-1987, "Operation and Maintenance of Nuclear Power Plants," Part 6 requirements should significantly increase vibration monitoring ability and the potential for early detection of pump degradation.

NRC Item No. 9

Code Exception Number E8 for Pumps: The Code section (i.e., IWP-3230(a)) from which relief is requested should be specified in this relief request. Also, the licensee did not provide adequate basis for deleting the corrective action requirement of IWP-3230(a) relative to Alert Range of IWP-3100-2 for Charging Pumps CH-1A, B, C. The argument that "applying the tolerance from Table IWP-3100-2 yields an acceptance range which is very difficult to read on a flow indicator with a range of 0-240 gpm" is invalid. The reason is that 0-240 gpm is approximately twice the range allowed by the Code. As indicated in the staff evaluation of Code Exception Number E8, above, the instrumentation should have a range of three times reference value or less, approximately 0-120 gpm. The need for this relief request should be reassessed since the acceptance range should not be very difficult to read if the test is performed using acceptable instrumentation.

OPPD Response

Based on the evaluation and conclusions as stated in the response to Item No. 7 above, and using the NRC Staff recommendation above, OPPD has deleted the Relief Request for Code Exception Number E8 from the ISI Program Plan Revision 5. The applicable surveillance tests have been revised to reflect the deletion of Code Exception Number E8.

ATTACHMENT 2
ISI PROGRAM PLAN - FORT CALHOUN STATION
REVISION 5 - SUMMARY LIST OF CHANGES FROM OCTOBER 8, 1990 THROUGH MARCH 15, 1991
(IN CHRONOLOGICAL ORDER)

Change No.	Page No.	Component Number	Code Exception	Description of Change	Justification for Change
1	46, 80	HCV-2504A	Valve E45	Change from "Rapid Acting" to "Normal" type valve. Eliminate HCV-2504A from Exception E45.	Solenoid flow coefficient (Cv) was changed to a smaller Cv. Therefore, the "Rapid Acting" valve criteria of $\leq$ 2 seconds was not able to be met.
2	46, 80	HCV-2506A	Valve E45	Change from "Rapid Acting" to "Normal" type valve. Eliminate HCV-2506A from Exception E45.	Solenoid flow coefficient (Cv) was changed to a smaller Cv. Therefore, the "Rapid Acting" valve criteria of $\leq$ 2 seconds was not able to be met.
3	8	B-F Item	N/A	Add category B-F item numbers B5.50 and B5.51 to Table 1.1.	Unintentionally omitted from original submittal
4	41, Add Page 50a	HCV-474	Valve E46	Add valve exception E46 (Cold Shutdown justification) for HCV-474. Revise Table 2.1.	Basis for Exception E46 Basis for Exception from Subsections IWV-3411: This valve serves to isolate Component Cooling Water (CCW) from the SI and CS pump bearing coolers. This valve cannot be stroke tested Quarterly during power operation because failure of this valve in a non-conservative position would require the SI and Containment Spray pumps to be declared inoperable. Should the CCW to bearing coolers fail, the LCO specified in Technical Specification 2.01 would be entered and could result in a forced plant shutdown. This valve cannot be partial-stroked because it is either fully open or fully closed. Alternate Testing Methodology: Valve HCV-474 shall be stroke-timed in the open direction during Cold Shutdown.
5	34, 66	HCV-258, HCV-265	Valve E22	Valves to be tested Quarterly. Delete valves from Exception E22.	Engineering re-evaluation determined Quarterly testing is able to be performed.

ATTACHMENT 2

Change No.	Page No.	Component Number	Code Exception	Description of Change	Justification for Change
6	55	PCV-102-1 PCV-102-2	Valve E2	Change PORV initial test conditions of RCS temperature (300 - 350 F) and pressure (350 - 450 psia).	Engineering re-evaluation for GL 90-06 and to ensure adequate NPSH for RCPs.
7	34, 66	HCV-249	Valve E21	Add "Open" stroke time for HCV-249 Change E21 to agree with Table 2.1	Engineering re-evaluation to test in open direction as well as closed.
8	32, 64	CH-205	Valve E17	Change to partial-stroke Quarterly and full-stroke during Refueling Outage.	Engineering data for "full-stroke" is 190 GPM. Need to run all three charging pumps and HPSI pumps. See also "Basis for Exception" and "Alternate Testing" for valve Exception E15 of the ISI Program Plan.
9	91 - 93	SI-1A, SI-1B, SI-2A, SI-2B, SI-2C, SI-3A, SI-3B, SI-3C, CH-4A, CH-4B	Pump E4	Delete requirement of eliminating "Alert" in Cold Shutdown and Refueling Outage tests for LPSI, HPSI, CS and Boric Acid transfer pumps.	Unnecessary - Program ensures intent of this code requirement is met.
10	96, 97	CH-1A, CH-1B CH-1C	Pump E8	Delete relief request E8 for charging pumps.	Unnecessary - Program ensures intent of this code requirement is met. Reference OPPD's response to Reference 6 Item #9, Attachment 1.
11	52, Add Page 80b	IA-PCV-6680A-1-C IA-PCV-6680A-2-C IA-PCV-6680B-1-C IA-PCV-6680B-2-C IA-PCV-6682-C	Valve E47	Add instrument air accumulator check valves. Reference modification MR-FC-87-20.	Instrument air accumulator check valves added as a result of modification MR-FC-87-20. Basis for Exception E47. Basis for Exception from Subsection IWV-3521: These valves cannot be exercised Quarterly during power operation as exercising these check valves will cause the Control Room (CR) air filtration dampers to be inoperable. Failure of the CR air filtration dampers in the failed (open) position would not allow the CR to be isolated from toxic gas. Either of the above conditions would require the plant to be in Cold Shutdown per Technical Specifications 2.12 and 2.01. Alternate Testing: Check valves will be exercised open and closed during Cold Shutdown.

ATTACHMENT 2

Change No.	Page No.	Component Number	Code Exception	Description of Change	Justification for Change
12	54	CIVs	Valve G2	Change to be applicable to only CIVs.	Clarification applicable only to CIVs. Reference OPPD's response to Reference 6, Item #1, Attachment 1.
13	32, 34, 64	HCV-206, HC-241	Valve E18	Change frequency to Cold Shutdown.	Reference OPPD's response to Reference 6, Item #3, Attachment 1.
14	40, 71	HCV-438A HCV-438B HCV-438C HCV-438D IA-HCV-438B-C IA-HCV-438D-C	Valve E30	Change frequency to Cold Shutdown.	Reference OPPD's response (#4a) to Reference 6, Item #4, Attachment 1.
15	79	SI-135, SI-143 SI-149	Valve E44	Change Cold Shutdown justification to Relief Request.	Reference OPPD's response to Reference 6, Item #6, Attachment 1.
16	46, 76	PCV-1849A, PCV-1849B	Valve E38	Change frequency to Cold Shutdown.	Reference OPPD's response (#4b) to Reference 6, Item #4, Attachment 1.
17	Add Page 15a	B-N-1 Item	N/A	Change RV visual exams frequency to, when core support barrel is removed.	During normal refueling outages at Fort Calhoun Station, only the uppermost 8 inches of the reactor vessel interior is accessible for visual examination. Accessibility is limited by the design of the reactor vessel and is caused by mechanical interference presented by the flange on top of the core support barrel. Because of the limited accessibility to the reactor vessel internals, the information gained from visual examination is small compared to the radiation exposure received by personnel performing the examination. The components that can be examined are not attached by bolted or welded connections and the probability of detecting loose parts, debris, or abnormal erosion products, wear, erosion, and corrosion in such a limited area is small. During refueling outages when the core support barrel is removed, the reactor internal surfaces are accessible. Under

ATTACHMENT 2

Change No.	Page No.	Component Number	Code Exception	Description of Change	Justification for Change
					these conditions, meaningful information can be obtained by the prescribed visual examinations. Normally, the core support barrel is removed during plant outages corresponding to the end of each ten year interval. Therefore, because safety is not enhanced by examining such a small accessible area and because of the radiation exposure to personnel when performing the examination, OPPD will perform the visual examination of accessible areas of the reactor vessel interior only during those plant outages when the core support barrel is removed.
18	20, 85	All	N/A	Add a statement concerning pumps/valves that are added to ISI program as a result of facility/system modifications, engineering reevaluations etc. These components are considered to be operable until a trend is able to be established.	To clarify operability concerns related to additions to ISI Program Plan.
19	41	HCV-474	N/A	Change category of HCV-474 to category B in Table 2.1.	Typographical error.