June 17, 2003

Mr. Ronald A. Jones
Vice President, Oconee Site
Duke Energy Corporation
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3 RE: SAFETY EVALUATION OF RELIEF REQUESTS FOR THE FOURTH 10-YEAR PUMP AND VALVE INTERVAL INSERVICE TESTING PROGRAM PLAN (TAC NOS. MB5456, MB5457, AND MB5458)

Dear Mr. Jones:

By letter dated June 10, 2002, Duke Energy Company (the licensee) submitted its fourth 10-year inservice testing (IST) program plan for pumps and valves at Oconee Nuclear Station, Units 1, 2, and 3. During a telephone conversation on April 9, 2003, the U. S. Nuclear Regulatory Commission (NRC) requested the licensee to submit additional information to support its request. The licensee submitted the requested information to the NRC in its letter dated April 29, 2003. The April 29, 2003, letter includes responses to questions on relief requests ON-GRP-01 and ON-GRP-02, which were submitted in a letter dated October 23, 2002, and will be evaluated in a future NRC letter.

The staff has reviewed the subject relief requests associated with the fourth 10-year IST program plan for pumps and valves at Oconee Nuclear Station. For relief requests ON-GRV-03, ON-GRV-16, ON-SRV-CF-01, and ON-SRV-CF-02, the licensee's proposed alternatives are authorized pursuant to Title 10 *Code of the Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i) for the fourth 10-year interval, based on the alternative providing an acceptable level of quality and safety. For relief request ON-GRV-12, the staff approves the use of portions of later Code Editions and Addenda pursuant to 10 CFR 50.55a(f)(4)(iv) for the fourth 10-year interval based on incorporation by reference of the 1997 Addenda of the American Society of Mechanical Engineers for Operation and Maintenance of Nuclear Power Plants in 10 CFR 50.55a(b). The staff's Safety Evaluation is enclosed.

Sincerely,

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure: As stated

cc w/encl: See next page

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The staff has reviewed the subject relief requests associated with the fourth 10-year IST program plan for pumps and valves at Oconee Nuclear Station. For relief requests ON-GRV-03, ON-GRV-16, ON-SRV-CF-01, and ON-SRV-CF-02, the licensee's proposed alternatives are authorized pursuant to Title 10 *Code of the Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i) for the fourth 10-year interval, based on the alternative providing an acceptable level of quality and safety. For relief request ON-GRV-12, the staff approves the use of portions of later Code Editions and Addenda pursuant to 10 CFR 50.55a(f)(4)(iv) for the fourth 10-year interval based on incorporation by reference of the 1997 Addenda of the American Society of Mechanical Engineers for Operation and Maintenance of Nuclear Power Plants in 10 CFR 50.55a(b). The staff's Safety Evaluation is enclosed.

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John A. Nakoski, Chief, Section 1
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Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure: As stated

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH TEN-YEAR INTERVAL INSERVICE TESTING PROGRAM PLAN

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DUKE ENERGY CORPORATION

DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 INTRODUCTION

By letter dated June 10, 2002, Duke Energy Company (the licensee), submitted its fourth 10-year inservice testing (IST) program plan for pumps and valves for its Oconee Nuclear Station, Units 1, 2, and 3. The licensee proposed several alternatives to the requirements of the American Society of Mechanical Engineers (ASME) for Operation and Maintenance of Nuclear Power Plants (OM) Code for its Oconee Nuclear Station fourth 10-year interval IST program. In response to staff's request for additional information, the licensee submitted additional information to the U. S. Nuclear Regulatory Commission (NRC) in its letter dated April 29, 2003. The Oconee Nuclear Station fourth 10-year IST interval commenced July 1, 2002. The program was developed in accordance with the 1995 Edition, 1996 Addenda of the ASME OM Code.

2.0 REGULATORY EVALUATION

According to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a, requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed at 120-month (10-year) IST program intervals in accordance with the ASME OM Code and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In accordance with 10 CFR 50.55a(f)(4)(ii), licensees are required to comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in the regulations 12 months prior to the start of each 120-month IST program interval. In accordance with 50.55a(f)(4)(iv), IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met. In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for the facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance

on Developing Acceptable Inservice Testing Programs," provides alternatives to Code requirements that are acceptable.

Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidance for Inservice Testing at Nuclear Power Plants."

3.0 TECHNICAL EVALUATION

3.1 Valve Relief Request ON-GRV-03

3.1.1 Code Requirements

The licensee requested relief from ASME OM-1995 Standard, OMa-1996 addenda, Subsection ISTC 4.2.6 that states, "Valves with fail-safe actuators shall be tested by observing the operation of the actuator upon loss of valve actuating power in accordance with the exercising frequency of paragraph ISTC 4.2.1."

3.1.2 Licensee's Basis for Requesting Relief

In the licensee's April 29, 2003, submittal, it stated:

> Testing by loss of actuator power results in hardship and unusual difficulty without a compensating increase in the level of quality and safety. First, loss of actuator power generally involves maintenance action to interrupt power, which must subsequently be restored and verified. This greatly increases the manpower requirements and increases the possibility for human error in returning components to service. Second, by ISTC 3.4, a subsequent post maintenance test is required to verify return to acceptable operation. Third, some components, especially pneumatic valves, have two modes of "loss of actuator power": they can lose pneumatic power by loss of instrument air or they can lose electrical power to control solenoids. Therefore, to test all modes of failure at least three tests would be required on some valves.
>
> The net result is a significant increase in manpower and time to perform the tests, an increase in radiation exposure for valves in radiation areas, and an increase in the possibility of improper return to service.

3.1.3 Licensee's Proposed Alternative Testing

In the licensee's April 29, 2003, submittal, it stated:

> Fail safe valves will be tested using normal controls. Where both normal controls and engineered safeguard control (ESG) control switches exist, the ESG switches will be used. The action of the switch is the same as if the actuator power is removed. Fail/Safe valves installed have pneumatic or mechanical devices to fail the valve in the safe direction. Response to I.E. Notice 88-14 [Potential Problems with Electrical Relays] and recent analysis has shown all valves installed to fail in the safe direction and/or mechanical means have been provided and incorporated into procedures to reposition the valve.

> This test alternative will be imposed for the time period of the current ten year interval.

3.1.4 Evaluation

The OM Code requires that valves with fail safe actuators be tested by observing the operation of the actuator upon loss of valve actuating power in accordance with the exercising frequency of paragraph ISTC 4.2.1. The licensee proposes to test fail safe valves using normal controls, but where both normal controls and ESG switches exist, the ESG switches will be used. The action of the switch is the same as if the actuator power is removed. The fail safe valves installed have pneumatic or mechanical devices to fail the valve in the safe direction. The licensee's response to I.E. Notice 88-14 and recent analysis has shown that all valves that are installed fail in the safe direction and/or have mechanical means provided and are incorporated into procedures to reposition the valve.

The NRC staff review has determined that since that the action of the ESG switch is the same as if actuator power is removed, that analysis has shown that all valves fail in the safe direction, and that fail safe valves have pneumatic or mechanical devices to fail the valve in the safe direction or mechanical means have been provided and incorporated into procedures to reposition the valve. Therefore, the NRC staff finds that the proposed alternate testing that adequately assures that the valve will return to the fail safe position provides an acceptable level of quality and safety.

3.1.5 Conclusion

Based on a review of the information provided by the licensee, the NRC staff concludes that the licensee's proposed alternative with regard to valves with fail safe actuators is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth 10-year interval on the basis that the proposed alternative provides an acceptable level of quality and safety.

3.2 Valve Relief Request ON-GRV-12

3.2.1 Code Requirements

The licensee requested relief for all safety and relief valve set-pressure testing from ASME OMa-1996, Appendix I, Sections I.8.1.1(h), I.8.1.2(h), and I.8.1.3(g) that states, "Time Between Valve Openings; A minimum of 10 minutes shall elapse between successive valve openings."

3.2.2 Licensee's Basis for Requesting Relief

In the licensee's April 29, 2003, submittal, it stated:

> For these valves, the requirement for waiting 10 minutes between successive openings has been modified by the ASME Code Committees in conjunction with safety and relief valve industry experts and is reflected in a change made to the ASME O&M 1995 Editions (OMb-1997, Appendix I). Data and research has proven that the effect on thermal equilibrium and set-point is negligible between successive openings. The impact of waiting 10 minutes between successive

> openings is an unnecessary increase in manpower and radiation exposure with no increase in the level of safety or test accuracy.

3.2.3 Licensee's Proposed Alternative Testing

In the licensee's April 29, 2003, submittal, it stated:

> For all safety and relief valves, a minimum of 5 minutes shall elapse between successive valve openings. This test alternative provides an acceptable level of quality and safety and will be imposed for the time period of the current ten year interval.

3.2.4 Evaluation

The pressure relief devices function to provide over-pressure protection to their associated systems. The 1995 Edition, 1996 Addenda, of the OM Code, Appendix I, 8.1.1(h), 8.1.2(h), and 8.1.3(g), requires that a minimum of 10 minutes elapse between successive valve openings. The licensee proposes an alternative test method of 5 minutes elapse between successive valve openings.

Section 50.55a(f)(4)(iv) states that IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met. The 1997 Addenda of the ASME OM Code was incorporated by reference in 10 CFR 50.55a(b) on September 26, 2002 (67 FR 60520), with no modifications or limitations placed on Mandatory Appendix I requirements. The 1997 Addenda to the OM Code associated with the hold time between valve openings of pressure relief devices as provided in Appendix I, paragraphs 8.1.1(h), 8.1.2(h), and 8.1.3(g), requires that a minimum of 5 minutes elapse between successive valve openings. The staff finds that all related requirements in Appendix I, of the ASME OM Code, 1997 Addenda, have been met by the licensee's proposed alternative. Therefore, the request to use the portions of a later Code and Addenda associated with the IST of pressure relief devices is approved pursuant to 10 CFR 50.55a(f)(4)(iv).

3.2.5 Conclusion

Based on a review of the information provided by the licensee, the NRC staff concludes that the proposed use of later Code requirements in Appendix I, 8.1.1(h), 8.1.2(h), and 8.1.3(g) related to the IST of pressure relief devices is approved pursuant to 10 CFR 50.55a(f)(4)(iv) for the fourth 10-year interval based on incorporation by reference of the 1997 Addenda of the ASME OM Code in 10 CFR50.55a(b).

3.3 Valve Relief Request ON-GRV-16

3.3.1 Code Requirements

The licensee requested relief from ISTC 4.2.2 that requires that a valve be full stroke exercised during plant operation to the position(s) required to fulfill its function(s) for valves that are maintained in one position to satisfy a safety function (i.e., passive safety function) and then

must change position during an event to fulfill another safety function (i.e. active safety function). This relief request applies to the following valves:

1LP0001	1LP0009	1LP0010	1LP0021	1LP0022	1LP0103
2LP0001	2LP0009	2LP0010	2LP0021	2LP0022	2LP0103
3LP0001	3LP0009	3LP0010	3LP0021	3LP0022	3LP0103

3.3.2 Licensee's Basis for Requesting Relief

In the licensee's April 29, 2003, submittal, it stated:

> Per Section ISTC 1.1 of OMa-1996 Subsection ISTC, the basis of Inservice Testing is to assess the operational readiness of active or passive valves which are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. To this end, a valve which has a single active function to change position is monitored to ensure its operational readiness to fulfill such a function. Likewise, the position indication of a valve which simply has a passive function to remain in a certain position is monitored. Thus, the code has no requirements or provisions for monitoring the ability of passive valves to change position. As recognized by the code, the degradation of a valve to move to its passive position is inconsequential since the valve is maintained during normal operations in such a position to meet its passive safety function. As previously stated, Section ISTC 4.2.2 does not appear to recognize that certain valves may have a passive function and an active function. For example, Section ISTC 4.2.2 requires that a valve be full stroke exercised during plant operation to the positions required to fulfill its function(s). This would imply that a valve with a passive function in one direction and an active function in the other direction would be required to be monitored for degradation during cycling to either position. However, as previously stated and as recognized by the code, any potential degradation of a valve to change position to meet its passive safety function is inconsequential. Obviously, since it is a passive function, there is no necessity for a valve to move to its passive position to perform a specific function in shutting down a reactor to the cold shutdown condition, in maintaining the cold shutdown condition, or in mitigating the consequences of an accident. Likewise, there should be no requirement to monitor the ability of a valve to move to its passive position.

3.3.3 Licensee's Proposed Alternative Testing

In the licensee's April 29, 2003, submittal, it stated:

> For valves which are maintained in one position to satisfy a safety function (i.e. passive safety function) and then must change position during an event to fulfill another safety function (i.e. active safety function), the following testing is to be performed:

- Testing of the passive function of the valve will be performed identically to the testing specified within Table ISTC 3.6-1 of OMa-1996 for a passive valve.
- Testing of the active function of the valve will be performed identically to the testing specified within Table ISTC 3.6-1 of OMa-1996 for an active valve.

The proposed alternative provides an acceptable level of quality and safety and will be imposed for the duration of the current 10 year interval.

3.3.4 Evaluation

Section ISTC 4.2.2 requires that a valve be full stroke exercised during plant operation to the position(s) required to fulfill its function(s). This relief request addresses valves that are maintained in a required safety position during normal operation and then must change position during an event to fulfill another safety function. Once the valve is actuated to fulfill the second safety function the initial safety function is completed and the valve is no longer required to change position again to perform a specific function in shutting down the reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The basis of IST is to assess the operational readiness of active or passive valves that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. A valve that has a single active function to change position is monitored to ensure its operational readiness to fulfill such a function. Likewise, the position indication of a valve that simply has a passive function to remain in a certain position is monitored. The degradation of a valve to move to its passive position is inconsequential since the valve is maintained during normal operation in the required position to meet its passive safety function.

The licensee proposes to test the active function of the valve identically to the testing specified within Table ISTC 3.6-1 for an active valve and to test the passive function of the valve identically to the testing specified within Table ISTC 3.6-1 for a passive valve. Based on the fact that the valve is maintained in its required initial safety position during normal operation and that the proposed alternate testing adequately assesses the operational readiness of the valve to change position to perform a specific function in shutting down the reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident, the NRC staff finds that the proposed alternative provides an acceptable level of quality and safety.

3.3.5 Conclusion

Based on a review of the information provided by the licensee, the NRC staff concludes that the licensee's proposed alternative with regard to stroke time testing of valves 1/2/3LP0001, 1/2/3LP0009, 1/2/3LP0010, 1/2/3LP0021, 1/2/3LP0022, and 1/2/3LP0103 is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth 10-year interval on the basis that the proposed alternative provides an acceptable level of quality and safety.

3.4 Relief Request ON-SRV-CF-01

3.4.1 Code Requirements

The licensee requested relief from OMa-1996, Subsection ISTC 3.4 that requires post-maintenance flow testing and ISTC 4.5.8 that requires flow testing prior to returning a valve to service following corrective action. The licensee requested relief from the requirements of ISTC 3.4 and ISTC 4.5.8 for the following core flood (CF) valves:

1CF0011	1CF0013
2CF0011	2CF0013
3CF0011	3CF0013

3.4.2 Licensee's Basis for Requesting Relief

In the licensee's June 10, 2002, submittal, it stated:

> Relief from OMa-1996, Subsection ISTC 3.4 requirement for post-maintenance testing is requested on the following basis. Any maintenance required on these valves would be scheduled after the full-flow test because the valve can not be removed from the system for maintenance until after the core flood tanks are drained (low-point maintenance). Full-flow testing is concurrent with draining of the tanks, and therefore precedes valve removal. Revising the outage schedule to provide for valve maintenance prior to full-flow testing would create a significant hardship on outage management and would adversely affect shutdown risk as explained below.
>
> The maintenance on the valve must be performed during the defueled maintenance window. To fill the CF tanks after the defueled maintenance window and perform the full-flow test before fuel is reloaded would take roughly 30 hours of critical path outage time. Additionally, during that phase of the outage there is no available space to mix water for the CF Tank fill. There is also no piping system available to refill the tanks. Realignment of the piping necessary to refill the tanks would require extensive procedure revisions and many Block Tagout revisions.
>
> Performing the test just prior to fuel movement as required by the above scenario would cloud the water in the vessel and limit the ability to properly verify fuel assembly locations. This increases the risk of a fuel handling error during the refueling process.
>
> Relief from the retest requirement following corrective action (ISTC 4.5.8) is requested on the same basis as stated above for ISTC 3.4. Corrective action as intended in this context would necessarily require disassembly for these valves. Such corrective action will be scheduled during the defueled maintenance window of each respective refueling outage.

3.4.3 Licensee's Proposed Alternative Testing

In the licensee's June 10, 2002, submittal, it stated:

> As an alternative to post-maintenance retesting required by ISTC 3.4 and ISTC 4.5.8, all maintenance which can affect the performance of the valve will be performed during refueling. The valves will be exercised by hand following disassembly, prior to returning the valves to service. While not the preferred method, disassembly is recognized within OMa-1996, Subsection ISTC 4.5.4 (c) whereby flow test methods are impractical. Additionally, Generic Letter 89-04 recognizes disassembly as an acceptable alternate to full flow testing. In some respects, disassembly can be the most effective method of advance detection of deterioration. For example, it can detect wear, corrosion, or other mechanical damage that flow testing may not detect. Therefore, this method will assure an acceptable level of safety. A partial stroke test will be performed during unit startup following disassembly.

3.4.4 Evaluation

These normally closed check valves open to allow the core flood tanks to discharge to the reactor coolant system (RCS) when RCS pressure is less than 600 psig. The valves can only be full stroke exercised during refueling outages and full flow testing is concurrent with draining of the core flood tanks. Valve maintenance can only be performed after the core flood tanks are drained during the low point maintenance window. Performing full stroke exercising after maintenance would extend critical path outage time in order to perform the test's prerequisites and would cloud the water in the vessel and limit the ability to properly verify fuel assembly locations during core reload.

GL 89-04, Position 2 and ISTC 4.5.4(c) allows the use of valve disassembly and inspection as an acceptable alternative to full flow testing. The licensee proposed alternative is consistent with GL 89-04, Position 2 and ISTC 4.5.4(c). Therefore, the NRC staff finds the licensee's proposed method of post-maintenance testing and return to service testing provides an acceptable level of quality and safety.

3.4.5 Conclusion

Based on a review of the information provided by the licensee, the NRC staff concludes that the license's proposed alternative to the Code requirements of ISTC 3.4 and ISTC 4.5.8 for post-maintenance and return to service testing of valves 1/2/3CF0011 and 1/2/3CF0013 is authorized pursuant to 10 CFR 50.a(a)(3)(i) for the fourth 10-year interval based on the alternative providing an acceptable level of quality and safety.

3.5 Relief Request ON-SRV-CF-02

3.5.1 Code Requirements

The licensee requested relief from OMa-1996, Subsection ISTC 3.4 that requires post-maintenance flow testing and ISTC 4.5.8 that requires flow testing prior to returning a

valve to service following corrective action. The licensee requested relief from the requirements of ISTC 3.4 and ISTC 4.5.8 for the following valves:

1CF0012	1CF0014
2CF0012	2CF0014
3CF0012	3CF0014

3.5.2 Licensee's Basis for Requesting Relief

In the licensee's June 10, 2002, submittal, it stated:

> Relief from OMa-1996, Subsection ISTC 3.4 requirement for post-maintenance testing is requested on the following basis. These valves cannot be isolated from the RCS. Therefore, disassembly of these valves for maintenance must be performed when the reactor is defueled and the refueling canal drained. (This is called the "defueled maintenance window" or "low point maintenance window.") Operability testing of these valves is scheduled immediately following defueling and just prior to draining the canal for maintenance. Since the operability test requires draining of the core flood tanks, there will be no water source for testing after the completion of maintenance. Revising the outage schedule to provide for valve maintenance prior to full-flow testing would require either a) isolating the core flood tanks with CF-1 and CF-2 while draining the canal and performing maintenance, or b) draining the core flood tanks prior to the defueled maintenance window. Option a) is a safety risk to maintenance personnel, since the tanks would have only single isolation. Also it does not allow for maintenance of CF-1 and CF-2, if required. Option b) creates an outage scheduling burden in that the core flood tanks would have to be refilled in order to perform the operability test. During that phase of the outage there is no available space to mix water for the CF Tank fill. There is also no piping system available to refill the tanks. Realignment of the piping necessary to refill the tanks would require extensive procedure revisions and many Block Tagout revisions. Furthermore, any problems discovered during the operability test would require a second draining of the refueling canal for repairs. These hardships are not offset by a compensating increase in the level of safety. In fact, both of the above options would adversely affect shutdown risk, as follows. The water in the canal will be clouded by the operability test. The sequences described above result in reduced time allowed for this cloudiness to clear up prior to refueling. This would make it harder to identify fuel assembly locations correctly, increasing the risk of a fuel handling accident.
>
> Relief from the retest requirement following corrective action (ISTC 4.5.8) is requested on the same basis as stated above for ISTC 3.4. Corrective action as intended in this context would necessarily require disassembly of these valves, as the condition of the valve internals would need to be ascertained. Such corrective action will be scheduled during the defueled maintenance window of each respective refueling outage.

3.5.3 Licensee's Proposed Alternative Testing

In the licensee's June 10, 2002, submittal, it stated:

> As an alternative to post-maintenance retesting required by ISTC 3.4 and ISTC 4.5.8, all maintenance which can affect the performance of the valve will be performed during refueling. The valves will be exercised by hand following disassembly, prior to returning the valves to service. While not the preferred method, disassembly is recognized within OMa-1996, Subsection ISTC 4.5.4 (c) whereby flow test methods are impractical. Additionally, Generic Letter 89-04 recognizes disassembly as an acceptable alternate to full flow testing. In some respects, disassembly can be the most effective method of advance detection of deterioration. For example, it can detect wear, corrosion, or other mechanical damage that flow testing may not detect. Therefore, this method will assure an acceptable level of safety. A partial stroke test will be performed during unit startup following disassembly.

3.5.4 Evaluation

These normally closed check valves open to allow the core flood tanks or low pressure injection system to discharge to the RCS. The valves can only be full stroke exercised during refueling outages and full flow testing is concurrent with draining of the core flood tanks. Valve maintenance can only be performed safely after the core flood tanks are drained during the low point maintenance window. Performing full stroke exercising after maintenance would extend critical path outage time in order to perform the test's prerequisites and would cloud the water in the vessel and limit the ability to properly verify fuel assembly locations during core reload.

GL 89-04, Position 2 and ISTC 4.5.4(c) allows the use of valve disassembly and inspection as an acceptable alternative to full flow testing. The licensee proposed alternative is consistent with GL 89-04, Position 2 and ISTC 4.5.4(c). Therefore, the NRC staff finds the licensee's proposed method of post-maintenance testing provides an acceptable level of quality and safety.

3.5.5 Conclusion

Based on a review of the information provided by the licensee, the NRC staff concludes that the license's proposed alternative to the Code requirements of ISTC 3.4 and ISTC 4.5.8 for post-maintenance and return to service testing of valves 1/2/3CF0012 and 1/2/3CF0014 is authorized pursuant to 10 CFR 50.a(a)(3)(i) for the fourth 10-year interval based on the alternative providing an acceptable level of quality and safety.

4.0 CONCLUSION

The NRC staff has reviewed the subject relief requests associated with the fourth 10-year IST program plan for pumps and valves at Oconee Nuclear Station. For relief requests ON-GRV-03, ON-GRV-16, ON-SRV-CF-01, and ON-SRV-CF-02, the licensee's proposed alternatives are authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth 10-year interval, based on the alternative providing an acceptable level of quality and safety. For relief request ON-GRV-12, the NRC staff approves the use of portions of later Code Editions and Addenda

pursuant to 10 CFR 50.55a(f)(4)(iv) for the fourth 10-year interval based on incorporation by reference of the 1997 Addenda of the ASME OM Code in 10 CFR 50.55a(b).

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Date: June 17, 2003

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