Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

February 17, 2006

L-2006-056
10 CFR 50.4

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: St. Lucie Unit 2
Docket No. 50-389
Notice of Enforcement Discretion
Excessive Containment Purge Valve Leakage

On February 15, 2006, Florida Power and Light verbally requested a Notice of Enforcement Discretion (NOED) for St. Lucie Unit 2 because compliance with Technical Specification (TS) 3.6.1.7 ACTION c would require a plant shutdown to repair an 8-inch containment purge supply isolation valve. The NRC verbally approved the NOED during the February 15, 2006 teleconference at 1500 hours to allow enforcement discretion for ACTION c of TS 3.6.1.7 in order to permit the use of a blind flange as an alternate means of isolating the containment purge flowpath.

St. Lucie hereby provides the written response to the NRC Notice of Enforcement Discretion (NOED) guidance questions that were discussed with the NRC in the teleconference held February 15, 2006.

St. Lucie confirms the verbal commitment made during the teleconference to submit a permanent TS change that will meet the intent of the Combustion Engineering Standard Technical Specifications actions for excessive containment purge valve leakage by February 21, 2006. Subsequent discussions with the Staff determined that the NOED will expire on March 24, 2006, or upon the NRC's disposition of the proposed license amendment, whichever occurs first.

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Please contact Mr. Terry Patterson at (772) 467-7162 or Mr. Ken Frehafer at (772) 467-7748 if there are any questions about this matter.

Very truly yours,

Gordon L. Johnston
Acting Vice President
St. Lucie Plant

GLJ/KWF

Attachment

St. Lucie hereby provides the written response to the NRC Notice of Enforcement Discretion (NOED) guidance questions that were discussed with the NRC in a teleconference held February 15, 2006. This information is consistent with the information requested in NRC Regulatory Information Summary 2005-01, Changes to Notice of Enforcement Discretion (NOED) Process and Staff Guidance, and NRC Inspection Manual Part 9900: Technical Guidance, Operations – Notices of Enforcement Discretion.

1. The TS or other license conditions that will be violated.

   St. Lucie Unit 2 TS 3.6.1.7, applicable in MODES 1, 2, 3, and, 4 requires that:

   "Each containment purge supply and exhaust isolation valve shall be OPERABLE and:
   a. Each 48-inch containment purge supply and exhaust isolation valve shall be sealed closed.
   b. The 8-inch containment purge supply and exhaust isolation valves may be open for purging and/or venting as required for safety related purposes such as:
      1. Maintaining containment pressure within the limits of Specification 3.6.1.4.
      2. Reducing containment atmosphere airborne radioactivity and/or improving air quality to an acceptable level for containment access."

   However, at 1610 hours on February 14, 2006, the inboard 8-inch containment purge supply isolation valve, FCV-25-36, failed TS surveillance requirement 4.6.1.7.4 that states:

   "At least once per 92 days, each 8-inch containment purge supply and exhaust isolation valve with resilient material seals shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than or equal to 0.05 L_a when pressurized to P_a."

   TS 3.6.1.7 Action c was entered that requires:

   "With a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate exceeding the limits of Surveillance Requirements 4.6.1.7.3 and/or 4.6.1.7.4, restore the inoperable valve(s) to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours."

   St. Lucie Unit 2 will violate the allowed outage time for Action c. because the valve cannot be restored to OPERABLE status within 24 hours (i.e., by 1610 hours February 15, 2006). Therefore, St. Lucie requests enforcement discretion to allow the use of a blind flange to satisfy TS 3.6.1.7 Action Statement c requirements. This enforcement discretion incorporates the Standard Technical Specification actions that allows installation of a blind flange to satisfy the action statement requirements for containment purge penetrations that fail their respective local leak rate test (LLRT) TS surveillances.

2. The circumstances surrounding the situation: including likely causes; the need for prompt action; action taken in an attempt to avoid the need for an NOED; and identification of any relevant historical events.

   Upon failure of the LLRT, an event response team (ERT) was formed to determine the likely cause of the surveillance failure, and a containment entry was planned to troubleshoot the valve and plan the work packages. At approximately 2300 hours, the results of the containment walkdown revealed that the inboard isolation valve, FCV-25-36, was leaking due to the failure of a shear pin that uncoupled the actuator from the valve stem. The actual cause of the shear pin failure is unknown at this time, but was most likely due to mechanical overload of the pin.

   The work package was planned to repair the valve (at least to where the valve could be mechanically failed closed) and perform a LLRT on the repaired valve. As work progressed inside containment it became evident that the broken shear pin could not be removed with the valve in place. Additionally, removal of the pin was essential in order to take as-built dimensions of the failed shear pin to facilitate the machining of a replacement pin. Based on the increasing obstacles involved with the proposed valve repair (i.e., difficulties involved with valve removal; the uncertainty of retrieval of the shear pin; machining a replacement part; restaking the valve stem to the actuator; and performing the LLRT retest), it was not likely that the work could be performed within the remaining TS action allowed outage time. Therefore, the valve was removed from the system and replaced by an engineered blind flange that was evaluated under evaluation JPN-PSL-SEMS-91-021, Rev 2, at approximately 0720 hours on February 15, 2006. The post-installation LLRT was completed satisfactorily at approximately 1050 hours on February 15, 2006.

   However, in order to exit TS 3.6.1.7 Action c. the subject valve needs to be restored to OPERABLE status. Although installation of the blind flange ensures the penetration is capable of performing its passive pressure retaining containment isolation safety function, a Notice of Enforcement Discretion (NOED) is required to preclude an unnecessary shutdown to comply with the TS Action statement that only credits the restoration of valve FCV-25-36 to OPERABLE status. Additionally, the work history for the subject valve was researched and no other shear pin failures were noted.

3. Information to show that the cause and proposed path to resolve the situation are understood by the licensee, such that there is a high likelihood that planned actions to resolve the situation can be completed within the proposed NOED time frame.

   The blind flange has been installed and the successful performance of the post-installation LLRT ensured that the penetration's passive pressure retention containment isolation safety function continues to be met. This action was completed prior to the expiration of the 24-hour allowed outage time. This configuration is planned to remain in place unit the NRC dispositions the permanent TS amendment request that will incorporate the Standard Technical Specification actions that allows installation of a blind flange to satisfy the action

statement requirements for containment purge penetrations that fail their respective TS surveillance LLRTs.

4. The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. The following information should be provided in support of this evaluation. To the extent practicable, the licensee should address the quantitative and qualitative aspects noted below. The numerical guidance for acceptance was established to augment qualitative arguments that the continued operation of the plant during the period of enforcement discretion will not cause risk to exceed the level determined acceptable during normal work controls and, therefore, there is no net increase in radiological risk to the public.

   a. Use the zero maintenance PRA model to establish the plant's baseline risk and the estimated risk increase associated with the period of enforcement discretion. For the plant-specific configuration the plant intends to operate in during the period of enforcement discretion, the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP) should be quantified and compared with guidance thresholds of less than or equal to an ICCDP of 5E-7 and an ICLERP of 5E-8. These numerical guidance values are not pass-fail criteria.

      The zero test and maintenance on-line risk monitor does not include the purge line, the risk impact is assessed by considering the impact on containment isolation, which does not contribute to core damage frequency, only large early release frequency (LERF).

   b. Discuss the dominant risk contributors (cut sets/sequences) and summarize the risk insights for the plant-specific configuration the plant intends to operate in during the period of enforcement discretion. This discussion should focus primarily on risk contributors that have changed (increased or decreased) from the baseline model as a result of the degraded condition and resultant compensatory measures, if any.

      The risk associated with indefinitely satisfying TS 3.6.1.7.c action requirements with the use of a blind flange is estimated considering the containment isolation function. Since the blind flange provides a positive isolation method by eliminating a postulated active single failure of an isolation barrier the margin to the LERF is slightly increased.

      The continuous containment purge/hydrogen purge systems functions described later are not explicitly modeled in the PSA, however, the impact of loss of these functions on the large early release frequency would be insignificant on LERF.

   c. Explain compensatory measures that will be taken to reduce the risk associated with the specified configuration. Compensatory measures to reduce plant vulnerabilities should focus on both event mitigation and initiating event likelihood. The objectives are to:
      i. reduce the likelihood of initiating events;

ii. reduce the likelihood of unavailability of trains redundant to the equipment that is out-of-service during the period of enforcement discretion;
iii. increase the likelihood of successful operator recovery actions in response to initiating events.

The only compensatory measure implemented by this NOED is the installation of a passive blind flange. Procedure ADM-17.16 provides requirements and guidelines for implementation of the Configuration Risk Management Program (CRMP). The CRMP is a proceduralized risk-informed assessment process to manage the risk associated with equipment inoperability, including equipment status, weather, grid stability, and fires. As stated above, there is no increase in risk associated with this Technical Specification noncompliance. Therefore, St. Lucie will continue to manage risk in accordance with the normal risk management process.

d. Discuss how the proposed compensatory measures are accounted for in the PRA. These modeled compensatory measures should be correlated, as applicable, to the dominant PRA sequences identified in item b. above. In addition, other measures not directly related to the equipment out-of-service may also be implemented to reduce overall plant risk and, as such, should be explained. Compensatory measures that cannot be modeled in the PRA should be assessed qualitatively.

The only compensatory measure implemented by this NOED is the installation of a passive blind flange, and the containment purge system is not modeled in the PSA. As stated above, this configuration enhances plant safety.

e. Discuss the extent of condition of the failed or unavailable component(s) to other trains/divisions of equipment and what adjustments, if any, to the related PRA common cause factors have been made to account for potential increases in their failure probabilities. The method used to determine the extent of condition should be discussed. It is recognized that a formal root cause or apparent cause is not required given the limited time available in determining acceptability of a proposed NOED. However, a discussion of the likely cause should be provided with an associated discussion of the potential for common cause failure.

The valve manufacturer and location is unique to the Unit 2 inboard containment purge supply isolation valve. Therefore, common cause failures and extent of condition are considered limited to this valve application.

f. Discuss external event risk for the specified plant configuration. An example of external event risk is a situation where a reactor core isolation cooling (RCIC) pump has failed and a review of the licensee's Individual Plant Examination of External Events or full-scope PRA model identifies that the RCIC pump is used to mitigate certain fire scenarios. Action may be taken to reduce fire ignition frequency in the affected areas or reduce human error associated with time-critical operator actions in response to such scenarios.

The containment purge system has no effect on, and is not credited in, the external event risk analysis.

g. Discuss forecasted weather conditions for the NOED period and any plant vulnerabilities related to weather conditions.

Probability of a severe weather during the time of requested period is low and does not change the conclusion of the risk evaluation.

SAFETY BASIS

The UFSAR, Section 9.4.8.8, states that the continuous containment purge/hydrogen purge system is designed to:

1) provide a sufficiently low concentration of radionuclides in the containment atmosphere in order to allow required access time for plant operators during inspection and maintenance operations,
2) provide a means of relieving of containment pressure buildup as a result of instrument air leakage and/or containment atmosphere temperature fluctuations,
3) provide the capability of ensuring that the containment source term contribution to the annual average off-site doses is maintained as low as is reasonably achievable,
4) provide hydrogen removal capability.

The system does not perform a Safety Related function other than containment isolation, since it is neither required to operate for safe shutdown of the reactor nor to mitigate the consequences of a Design Basis Accident.

The exhaust portion of the continuous containment purge/hydrogen purge system remains intact and operational. Of the functions performed by the system and listed above, only the hydrogen removal capability is mentioned in the plant Emergency Operating Procedures (EOPs), and it only provides a not safety-related backup to the safety-related hydrogen recombiners. The hydrogen recombiners are credited in the safety analysis to maintain the containment hydrogen concentration below 4% volume after any accident. Based on the above, installation of the blind flange will not adversely affect plant safety or operation.

One of the NUREG 1432, "Standard Technical Specifications, Combustion Engineering Plants," Revision 4, action statements for a containment purge valve LLRT failure is the installation of a blind flange. As stated in the NUREG bases for the TS:

"The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact... In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits,

purge valve leakage must be restored to within limits, or the affected penetration must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a [closed and de-activated automatic valve with resilient seals, a closed manual valve with resilient seals, or a blind flange]."

Therefore, the NRC has concluded that a blind flange is acceptable as a means to indefinitely satisfy the Action statement requirements for containment purge penetrations that fail their LLRTs.

CONCLUSION

Based on the positive risk impact and passive nature of the compensatory measure, indefinitely satisfying TS 3.6.1.7.c action requirements with the use of a blind flange is justified. Additionally, once the increased risk (on the order of 2E-7 based on a typical PWR all-mode PRA estimate) for transitioning the plant to Mode 5 conditions is factored into the assessment, use of the blind flange enhances plant safety.

5. The justification for the duration of the noncompliance.

   The proposed duration for this enforcement discretion would start upon verbal approval of the NOED. FPL commits to submit a permanent TS amendment request within 4 working days of the verbal approval of the NOED. The TS amendment request will incorporate the Standard Technical Specification actions that allow installation of a blind flange to satisfy the action statement requirements for containment purge penetrations that fail their respective local leak rate test TS surveillances. The NOED duration will end once the NRC dispositions the request for the TS amendment, or by March 24, 2006, whichever occurs first. Installation of the blind flange ensures that the penetration's passive pressure retention containment isolation safety function will be maintained under all postulated conditions. Additionally, NUREG 1432 established that a blind flange is acceptable as a means to indefinitely satisfy the action statement requirements for containment purge penetrations that fail their LLRTs. Therefore, the proposed NOED duration is acceptable.

6. The condition and operational status of the plant (including safety-related equipment out of service or otherwise inoperable).

   Currently, the plant is operating in Mode 1 at 100% power. The Risk Color per the On-Line Risk Monitor is GREEN. The following list of safety-related components are currently inoperable or out of service:

   2C Intake Cooling Water Pump

7. The status and potential challenges to off-site and on-site power sources.

Currently, the plant is operating providing power to the offsite power grid and all the onsite and offsite power sources are in operable status. According to FPL System Operations, the FPL and Florida Transmission system is loaded to approximately 60% capacity, and currently, there are no problems stressing the grid. St. Lucie will be notified immediately of any change in system status that impacts the plant.

8. The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety.

   Use of the blind flange to isolate the failed penetration provides a passive barrier to the release of radioactivity. Furthermore, isolation of the containment purge flowpath and the resultant loss of containment purge system functionality has no effect on analyzed accidents. Additionally, the NRC has accepted the indefinite use of a blind flange in this application as documented in NUREG 1432. Therefore noncompliance to Technical Specification requirements discussed in this NOED will not be a potential detriment to the health and safety of the public.

9. The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

   St. Lucie evaluated the proposed request for enforcement discretion against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. The noncompliance to Technical Specification requirements discussed in this NOED will not involve adverse consequences to the environment because this action involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. Therefore, this activity meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and that an environmental impact statement or environmental assessment need not be prepared in connection this NOED.

10. A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant On-site Review Committee, or its equivalent).

    The proposed NOED was approved by the plant facility review group (FRG) at Meeting 2006-011 on February 15, 2006.

11. The request must specifically address which of the NOED criteria for appropriate plant conditions specified in Section B is satisfied and how it is satisfied.

    The regular NOED is applicable for a plant in power operation to avoid unnecessary transients as a result of compliance with the license condition and minimize potential safety consequences and operational risks. Compliance with TS 3.6.1.7 action c would require a plant shutdown resulting in an increase in risk compared with the increase in safety gained by

the installation of the blind flange that removes an active single failure mode from the containment purge penetration.

12. Unless otherwise agreed as discussed in Section B, a commitment is required from the licensee that the written NOED request will be submitted within 2 working days and the follow-up amendment will be submitted within 4 working days of verbally granting the NOED. The licensee's amendment request must describe and justify the exigent circumstances (see 10 CFR 50.91(a)(6)). The licensee should state if staff has agreed during the teleconference that a follow-up amendment is not needed. If the licensee intends to propose a temporary amendment, the licensee's amendment request shall include justification for the temporary nature of the requested amendment.

    The NRC verbal approval of the NOED occurred on February 15, 2006. FPL commits to submit the written NOED request no later than February 17, 2006. FPL commits to submit the follow-up permanent license amendment request no later than February 21, 2006. FPL will justify the exigent circumstances for the amendment request in that submittal. FPL acknowledges that the NOED duration will end once the NRC dispositions the request for the TS amendment, or by March 24, 2006, whichever occurs first.

13. In addition to items 1-12 above, for a severe-weather NOED request the licensee must provide the following information:
    a. The name, organization and telephone number of the official in the government or independent entity who made the emergency situation determination. If deemed necessary, the staff may contact the appropriate official to independently verify the information provided by the licensee prior to making an NOED determination.
    b. Details of the basis and nature of the emergency situation including, but not limited to, its effect on:
        i. on-site and off-site emergency preparedness;
        ii. plant and site ingress and egress;
        iii. off-site and on-site power sources;
        iv. grid stability; and
        v. actions taken to avert and/or alleviate the emergency situation (e.g., coordinating with other utilities and the load dispatcher organization for buying additional power or for cycling load, or shedding interruptible industrial or non-emergency loads).
    c. Potential consequences of compliance with existing license requirements (e.g., plant trip, controlled shutdown).
    d. The impact of the emergency situation on plant safety including the capability of the ultimate heat sink.
    e. Potential adverse effects on public health and safety from enforcing compliance with specific license requirements during the emergency situation.

    This question is not applicable because this is not a weather related NOED.